15c

OIL WEEKLY

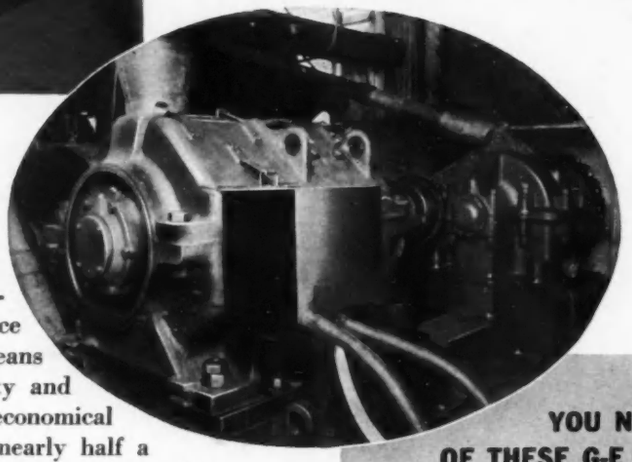
OIL AND GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

See PAGES 35 36 37 38 39 40

How G-E D-c. Drives for Rotary Rigs Can Save You Money



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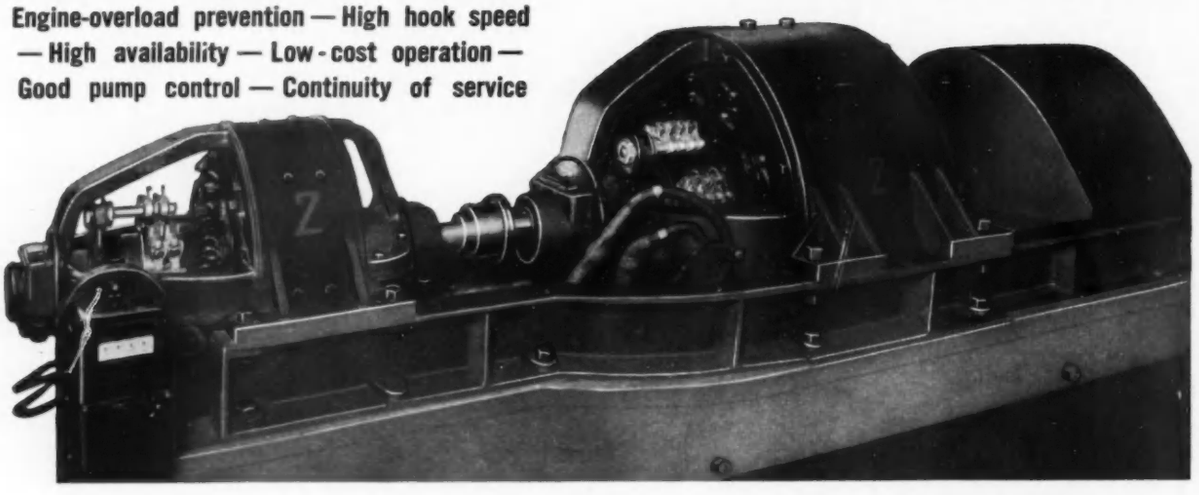

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GENERAL ELECTRIC

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $2.00 per year; 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

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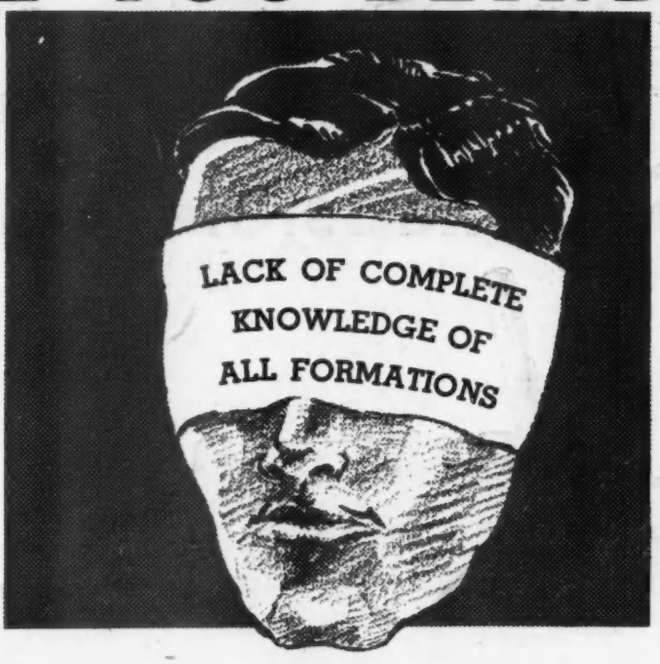

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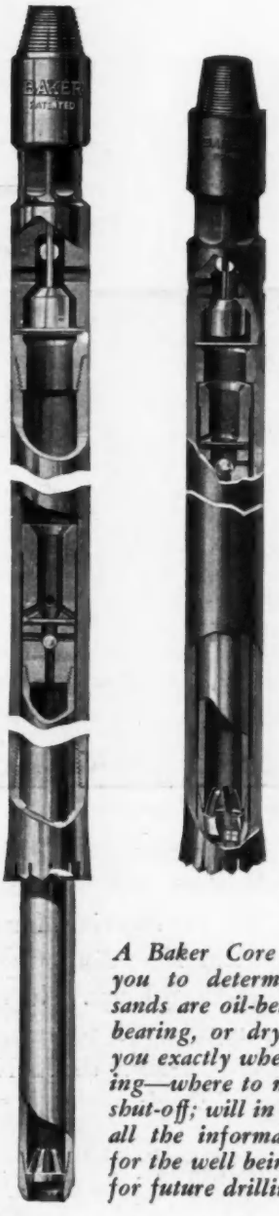

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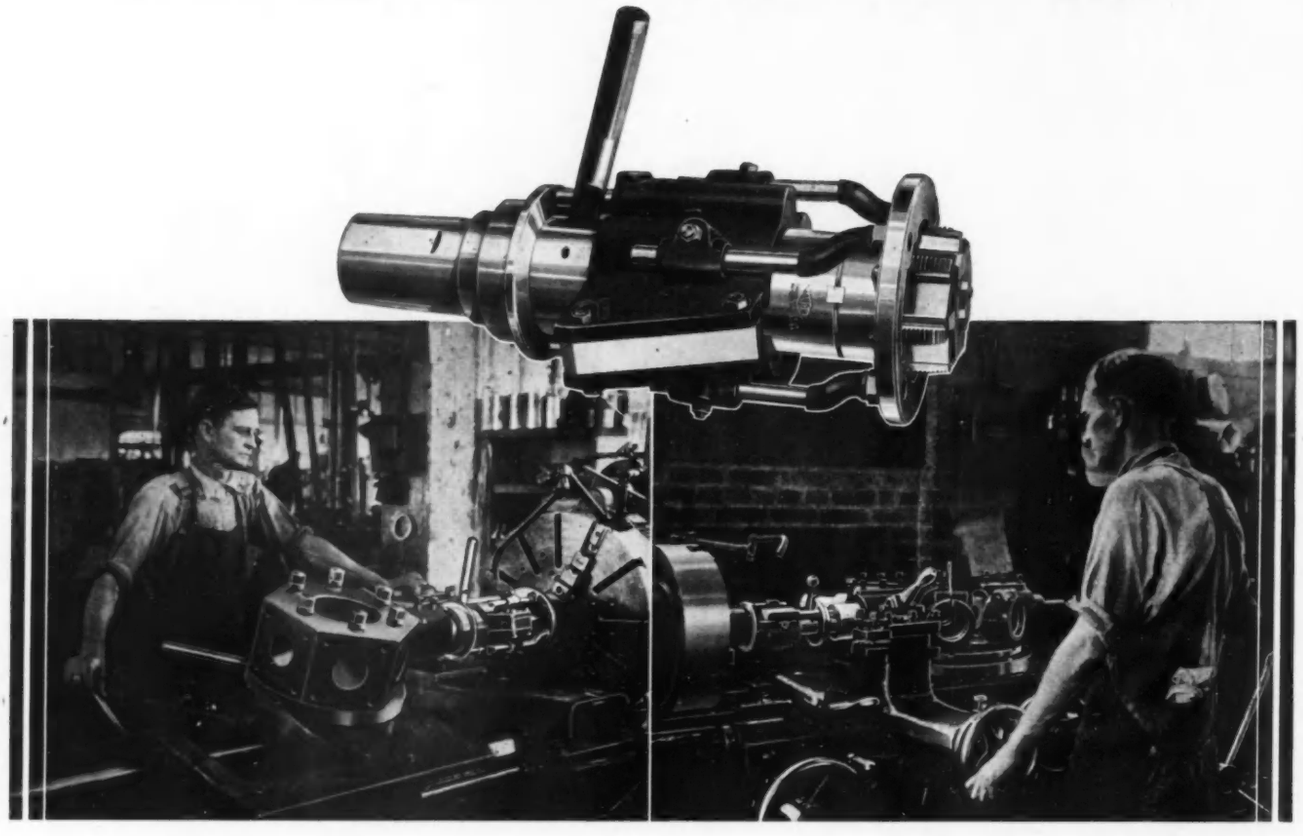

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THE OIL WEEKLY

ENGINEERING • STATISTICS • THE WEEK'S NEWS

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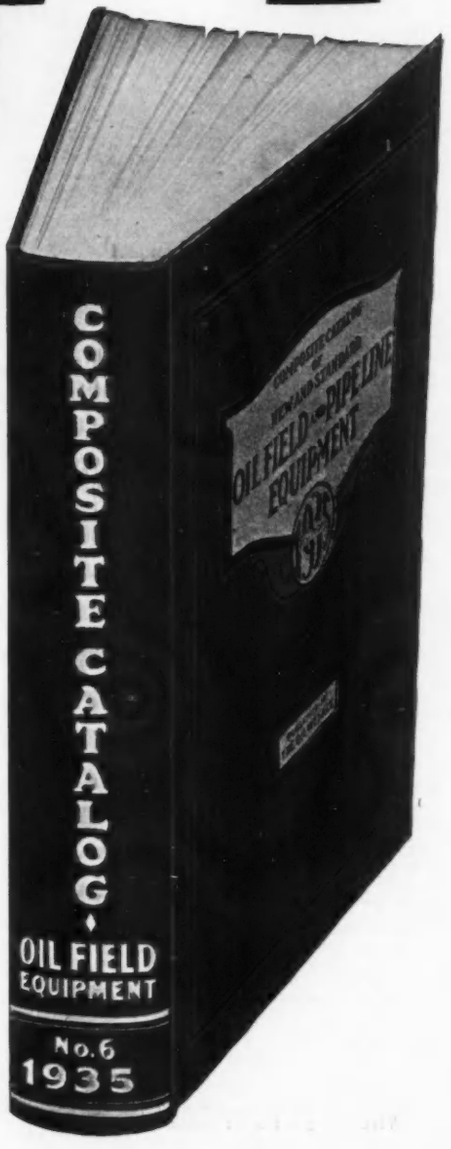
Advertising rates on application.

OK SAYS LOS ANGELES

The West Coast joins with the Gulf Coast, the Mid-Continent, and all the other parts of the oil world in singing the praises of the Composite Catalog.

"I have received my copy of the 1935 Composite Catalog, and wish to assure you that I have found it valuable for use in the selection of oil-field equipment," says the General Field Superintendent of a prominent Los Angeles oil company; and his letter is typical of scores of others.

The value of the Composite Catalog is easy to understand. It places at your finger tips essential new catalog information on products made by 255 manufacturers. It saves time. It speeds action. It eliminates misunderstandings. No wonder so many busy oil men have cultivated the *Composite Catalog Habit!*



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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

ENGINEERING • NEWS • STATISTICS

WARREN L. BAKER, Editor

. . . this Week

INDICATIONS are that administration officials in Washington expect the industry to experience a break in prices to a point where chaos will prevail, and that they plan to await this expected condition before going to Congress for control legislation. This strategy was indicated in "off record" discussions. This means that the Thomas bill and others probably will not get the backing of President Roosevelt this session, and, consequently, will not be enacted. **Page 11.**

ONE of the most interesting and important tests drilled in the world is Gulf Production Company's J. T. McElroy 103, Upton County, Texas. Because of a carefully-planned program and good operating practices this test drilled to 12,786 feet, 1409 feet deeper than any other test drilled to date. The fact that it establishes a new world's depth record is not the most important result from the well, although it does demonstrate the ability to bore to that depth. Outstanding among the lasting effects of this well are new engineering and operating practices that were developed. The first complete, official release of the drilling history of McElroy 103 appears in this issue of THE OIL WEEKLY. **Page 32.**

THE drilling of such tests as the above Gulf Production Company's McElroy 103 are of more significance than just engineering advancements. Of foremost importance, at least as far as the general industry is concerned, is the part deeper drilling will play in furnishing the supply to meet future consumption demand. Drilling of 10,000-foot holes is definitely a newly opened era, as shown by the fact 13 tests have penetrated to that depth or beyond. Ever since Drake's well increased consumption of petroleum products has been met by deeper drilling, and 10,000-foot tests are expected to greatly enlarge the world's crude oil reserves. **Page 15.**

PETROLEUM industry statistics for the first half of 1935 are of a definitely favorable nature. Most important is the substantially higher demand. While exact figures are not yet available for the entire six months, demand was 2.1 percent higher during the first four months than in 1934. The domestic demand was even higher, but foreign consumption was off. Production was up 6.5 percent, but was not out of line as evidenced by stocks remaining practically unchanged. The industry's markets also were greatly improved. As a result of these conditions, drilling operations during the six months were 19.2 percent greater than in the corresponding period of 1934. **Page 12.**

The Oil Man's Calendar

AUGUST

American Petroleum Equipment Suppliers Association.

19-24 American Chemical Society, San Francisco, California.

SEPTEMBER

18-20 National Petroleum Association, Atlantic City, New Jersey.

25-27 National Petroleum Association, Atlantic City, New Jersey.

OCTOBER

10-12 A.I.M.E. Petroleum Division, Mid-Continent Section, Houston, Texas.

16-17 American Association of Petroleum Geologists, Mid Year Meeting, Mexico City, Mexico.

NOVEMBER

4-5 Independent Petroleum Association of America, Annual Meeting, Dallas, Texas.

11-14 American Petroleum Institute, Annual Meeting, Biltmore Hotel, Los Angeles.

IF the State of California is to be able to meet its consumption demand by 1941, it is necessary that an appreciable new supply of oil be found. J. Edmund Eaton, consulting geologist, has written a series of two articles on the California reserve situation, the first of which appears this week. This is another part of THE OIL WEEKLY's editorial presentation of the United States crude oil reserve status. **Page 23.**

THE State of Texas continued its active campaign of oil confiscation under the new law, known as House Bill 581, by confiscating 206,200 barrels during the past week. Two sales of oil also were announced; one of which brought $21,845.75 and the other $36,703.35 to the state. Additional suits for the purpose of confiscating oil were filed by Attorney General McCraw. **Page 10.**

THE amount of formation contamination by drilling fluid is very important, but is likely to be found relatively small in most cases, and can be estimated readily by dissolving some simple chemical in the drilling fluid whose presence in the core can be determined. These are the conclusions of William L. Horner, research engineer, after making a study of the problem, and who presents his thoughts in an interesting article. **Page 29**

Announcing

★ EFFECTIVE WITH THIS ISSUE, the publishers of THE OIL WEEKLY and its editorial staff, are pleased to call attention to a number of important changes which readers will readily recognize as improvements in the presentation of technical articles and news.

★ FIRST, THE OIL WEEKLY, has been enlarged to conform to the size that has been adopted as standard by such technical publications as Steel, Power, Chem. & Met., and others. This provides added margins of white space which permit a more attractive display of the editorial and advertising pages. A heavier paper stock is being used to secure better printing and thus a more readable book.

★ A NEW FORMAT is being used throughout and all engineering and feature articles are in a larger type, thus adding considerably to the attractiveness and easiness with which this material can be read. Also, provisions have been made for an even greater number of engineering articles each week. News material is handled in an even more logical sequence and is displayed in such manner as to make it readily available to those who desire the complete news of the industry each week.

★ THESE CHANGES, and others, effective with this number, are but additional steps in giving the oil industry a publication of the highest type. It is our hope that this larger and improved OIL WEEKLY will meet with the approval of our many friends and subscribers.

TAX ON GASOLINE

Federal government will continue taking one cent

WASHINGTON, D. C.

CONTINUANCE of the Federal tax of one cent per gallon on gasoline for a period of two years is provided for in the resolution adopted by Congress and sent to the White House June 27, extending the emergency nuisance taxes.

The Senate, in passing the measure, reduced the extension to one year, which the House of Representatives refused to accept.

The legislation continues the oil, gasoline and other nuisance taxes which were scheduled automatically to expire June 30, from which the Treasury is deriving some $500,000,000 a year in revenue.

Efforts to tack on to the resolution the sliding-scale taxes on corporations, ranging from 10 to 17½ percent, in lieu of the present flat tax of 13¾ percent, came to a sudden conclusion when President Roosevelt denied that he was seeking immediate enactment of that and the new share-the-wealth taxes recommended in his message of June 19.

The new tax program will be made the subject of separate legislation, which leaders in Congress say will be undertaken at once, but there is a probability that the session may recess or adjourn while the ways and means committee studies the matter.

OIL CONFISCATION

Texas confiscates and sells oil by auction

AUSTIN, TEXAS.

ATTORNEY General McCraw has continued his active campaign of oil confiscation under the new law, House Bill 581.

During the past week two sales of confiscated oil were announced, and trial of three suits previously filed resulted in the confiscation of 206,200 barrels of oil.

The first sale was to J. C. Potter, who purchased 54,656 barrels of oil for $21,845.75. This sale resulted from a suit tried on June 3, and the only cost to the state was $20.75, assessed as court costs.

In the second sale Roger Lacy purchased 91,807 barrels of oil for $36,703.35. The oil was confiscated as the result of a suit filed against Ocean Petroleum Company.

New suits filed last week in the 126th District Court, over which Judge W. F. Robertson presides, resulted in the confiscation of 65,000 barrels belonging to E. F. Bourg; 55,200 barrels held by J. A. McDonald; and 86,000 barrels owned by J. M. Davenport.

In each decree entered by the court so far, provision is made for the destruction of earthen pits if that method of storage has been used.

Because certain officials protested the sale of the oil privately through a receiver, Attorney General McGraw has requested that oil confiscated in the latter suits be sold by the sheriff in the county where it is in storage. This request has been granted by the court in several suits, and sales on this basis are expected this week.

Federal Attitude

IS TO AWAIT EXPECTED BREAK BEFORE PUSHING OIL CONTROL

WASHINGTON, D. C.

ADMINISTRATION officials in Washington will let the oil industry "hang itself" by breaking prices to a point where chaos prevails, and will then go to Congress for control legislation with the support of all but a few recalcitrants. it was indicated here this week.

That this will be the strategy of the administration was indicated by "off record" discussions of officials, who predicted that if the Thomas bill is not enacted this session the lid will blow off sooner or later, the price structure will be scrambled and extreme chaos may prevail.

In this way, the "hands off" attitude which has been maintained by President Roosevelt and Secretary of the Interior Harold L. Ickes is explained. It is conceded that there is little or no likelihood of Congressional action on the Thomas bill unless the President formally gets behind it. While President Roosevelt has said that oil legislation is needed and has suggested ratification of the interstate compact—but with the reservation that all states should participate, to make it effective—he has never placed his stamp of approval upon any one of the several oil bills which have been introduced since last January.

It is conceded that if the oil industry returns to the chaotic state in which it was found prior to the adoption of the code there can be little or no opposition, in the industry or Congress, to control legislation, although there may still be a difference of opinion as to the extent of that control.

While it is expected that there will be, as there have been, sporadic breaks in oil prices here and there throughout the country, it is not anticipated that any real bear drive will be initiated so long as Congress remains in Washington. The adjournment of the session, it is predicted, will be followed by a downward trend in oil prices.

Expect Bills Next Session

Indications that the Secretary of the Interior anticipates enactment of oil legislation next session are seen in his recent letter to J. D. Collett, chairman of the planning and coordination committee suggesting that that committee or a similar group be continued to advise with and aid the government in the administration of the Connally contraband oil law and such provisions of the amended recovery act as may affect the industry.

Unless this is done, the Secretary explained, it will be necessary for him to appoint such a committee from among members of the industry, but the hope was expressed that the planning and coordination committee would continue, because of its experience.

The Secretary also disclosed this week that the Petroleum Administrative Board and the Petroleum Labor Policy Board would be continued, but that all but a few of the investigators formerly engaged in enforcement of the oil code have been released from service. Approximately 150 of the men under Louis Glavis, chief investigator, have been let out and the few who remain have been assigned to the Federal Tender Board office in Texas.

OKLAHOMA MARKET

Demand for July is set at 518,000 barrels daily

OKLAHOMA CITY.

RECOMMENDATION for a state allowable of 518,035 barrels daily for the month of July was made to the Oklahoma Corporation Commission in a market demand hearing held here on Wednesday, June 26. It was believed that in the order which the commission will hand down in the next few days the allowable will be set at 517,400 barrels daily to conform to consumer demand as determined by the United States Bureau of Mines. Among the recommendations expected to be incorporated in the order were an increase of 2750 barrels per day for the Fitts pool of southeastern Pontotoc County, 750 barrels for the Edmond pool of northwestern Oklahoma County, 500 barrels for the Fish Wilcox sand pool of Seminole-Hughes Counties, and the removal of production restrictions in the Seminole City pool. It is proposed to produce this pool to capacity for 30 days and if its production remains at a reasonable figure to remove it from the prorated list. This is the fifteenth pool to be allowed capacity production during the past six months.

Allowables recommended to the commission were as follows: Class A, 126,600 barrels daily; Class B, 145,100 barrels; Class C, 47,500 barrels; Class D, 8,600 barrels; Class E, 26,600 barrels, and unprorated areas, 163,300 barrels. On Thursday, June 27, the commission had under consideration the method of taking potentials of the Class C pools for the six months proration period commencing August 1. Operators of the Crescent pool of western Logan County were unable to agree and the hearing for that pool was continued to July 9. Carter Oil Company and Gypsy Oil Company favored a six-hour open flow test, the last four hours of which would be multiplied by six to determine the potential. Mid-Continent Petroleum Corporation and Eason Oil Company favored either a full six hour open flow test or the application of a three-percent decline per month. In the Edmond pool a monthly decline factor of two-percent was continued, Lucien will be given a 12-hour open flow test to be multiplied by the factor 1.88, and Keokuk will be given a six-hour gauge, the last four hours of which will be multiplied by four. Operators of the Fitts pool were in agreement that the method heretofore followed should be continued. This pool, which on June 25, had a potential of 430,513 barrels from 123 wells will be gauged through 2½-inch tubing for six hours and the flow for the last four hours will be multiplied by six.

SLANT WELL BILL

California measure with governor for signature

LOS ANGELES.

THE governor of California probably will wait until July 4 to approve or disapprove the bill which permits the drilling of slant wells at Huntington Beach to a point under the ocean to tap oil sands known to exist. Such wells will have to be drilled on an angle to pass under the broad highway, under the interurban right-of-way and then some 300 feet or more under the ocean.

Hancock Oil Company, Signal Oil Company and Standard Oil Company of California are to form a new company to drill at least 52 slant wells from the Barley patch lease owned by Standard Oil Company and from the P. E. strip lease controlled by the Standard.

The new drilling will be several hundred feet northwest of the previous slant drilling and the new wells will bottom in a new oil sand not heretofore tapped.

There is little doubt but that the bill will be signed.

The city of Huntington Beach has dreams of being a taxless city, but it is doubted if the dreams will be realized. The new slant wells will pay a royalty of 16 1/3 percent to the state and only three percent to the city. The three percent allowed the city probably will fall far short of the amount expected.

GOVERNMENT LEASE

Data may be revised if public funds provided

WASHINGTON, D. C.

PLANNING to revise data in the files of the oil and gas leasing division of the Geological Survey, the Interior Department on June 27 filed with the Division of Applications and Information an application for $39,400 of public works funds.

In presenting the request, the department explained that by compiling and making available these records efficient and effective supervision of oil and gas operations on public, Indian and Naval petroleum reserve land will be facilitated.

Bright Prospects

STATISTICS FOR SIX MONTHS ARE DEFINITELY MORE FAVORABE

STATISTICS on the petroleum industry for the first half of 1935 are of a decided favorable nature. They reveal that demand for petroleum and petroleum products was substantially higher than in the corresponding period last year, justifying increased production. The greater demand meant greater volume of business.

Meanwhile, the balancing of supply with the demand was successful, resulting in favorable prices. The large volume of business and advantageous prices, in turn, were conducive to generally favorable earnings records for oil companies.

Production Up 6.5 Percent

Because of increased demand for oils, crude output was deliberately expanded, even under the program of restricting production. The nation's production in the first half of the year was approximately 6.5 percent greater than in the same period of 1934. It totaled 464,046,276 barrels in the 1935 six months, compared with 435,859,672 barrels in the 1934 half-year, both figures representing estimates based on American Petroleum Institute weekly reports, which do not include surreptitious production.

Drilling 19.2 Percent Higher

The higher demand for crude, favorable crude prices, and generally satisfactory condition of the industry were apparently responsible largely for increased drilling in the 1935 half-year, as compared with the similar period last year. The 1935 drilling has run 19.2 percent ahead of that in 1934. In the first half of this year, 9606 wells were completed in the United States, compared with 8059 in the first six months of last year. (These totals of completed wells include oil wells, gas wells, and dry holes).

Oil Demand Greater

Exact figures on demand for the opening half of 1935 will not be available for some time. But for the first four months, total demand for all oils was 2.1 percent higher than in the corresponding period of 1934, according to the Bureau of Mines. (domestic demand was 3.4 percent higher, but export demand was somewhat lower).

The domestic demand for gasoline, chief revenue raising product of the industry, has been especially encouraging this year. In the opening four months of 1935, the domestic gasoline demand ran 4.1 percent ahead of last year's corresponding demand, establishing an all-time peak. The expansion of gasoline consumption has been more pronounced, more-over, in recent months than previously. The domestic demand in April, this year, was 10.2 percent higher than in April, last year.

For the first half of 1935, as a whole, there has not been any important net change in the stocks of all oils held in storage. In the first four months of the year the total stocks of all oils increased about 5,000,000 barrels, storage of both crude and refined oils expanding. But subsequently, gasoline stocks have been reduced about 3,500,000 barrels, while crude stocks have not materially changed, indicating no substantial net change in total stocks for the first half of the year.

This holding of stocks at virtually unchanged proportions represented a part of the effective balancing of supply with demand. While storage was not materially drawn upon, total imports of crude and refined oils were rigidly restricted, falling short of those in 1934 by a million barrels, in a comparison for the first four months of each year.

The only increase in new supply, therefore, was in domestic production, which was expanded, as previously shown, fairly well in line with increased demand.

Markets Favorable

The oil industry's markets have been generally favorable in 1935. Crude prices have continued unchanged at the relatively high levels maintained for nearly two years. Prices of gasoline and other petroleum products, at refinery and service station, started on an upward trend about March 1. Through consistent, sustained advance, Mid-Continent tank car prices reached peak levels, at mid-May, about the same as those of mid-September, 1933, and almost as high as the previous peaks of late 1930. Service station prices moved up proportionately everywhere east of California. Since mid-May, both the wholesale and retail prices have remained mostly unchanged. On the Pacific Coast the markets were firm throughout the first three months of this year. But in April they weakened, due to difficulties in the market stabilization program of the region; and wholesale and retail prices continued depressed to the close of the year's second quarter, the situation having been still unsettled as June ended.

Increased Drilling

All but a few of the leading oil producing states had more drilling in the

[*Continued on page 81*]

United States Drilling and Production in First Half of 1935 Compared with Similar Period in 1934

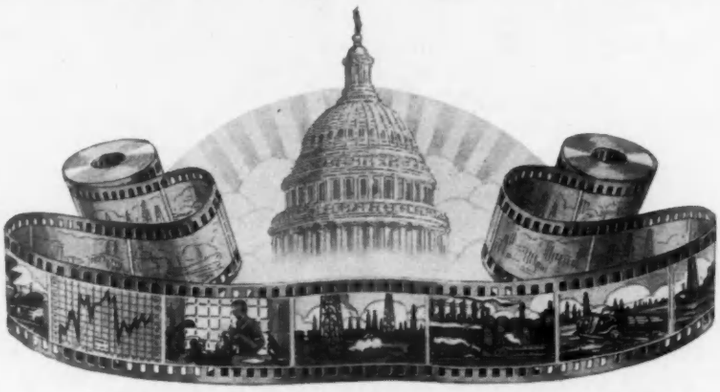
STATE OR DISTRICT	WELLS COMPLETED		Bbls. Crude Production	
	in 1935 (6 months)	in 1934 (6 months)	in 1935 (6 months)	in 1934 (6 months)
Oklahoma	1,057	921	89,810,700	89,392,550
Kansas	604	409	26,385,650	26,052,500
Texas	5,513	4,760	184,807,450	176,000,400
Louisiana	352	352	22,540,850	14,041,900
Arkansas	84	32	5,611,300	5,645,150
Southeastern States	10	17	.....	.....
Eastern States	1,136	958	19,056,900	17,722,300
Michigan	191	228	6,768,600	5,201,300
Rocky Mountain	80	88	8,931,800	7,421,200
New Mexico	136	38	8,897,400	7,975,850
California	443	255	91,235,626	86,406,522
Total	9,606	8,059	464,046,276	435,859,672

Monthly Summary of United States Drilling and Production, June, 1935

STATE	MONTH OF JUNE, 1935						CUMULATIVE, JANUARY THROUGH JUNE, 1934					
	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.
Oklahoma	179	116	9	54	212,155	15,197,450	1,057	669	59	329	1,402,167	89,810,700
Kansas	82	56	1	25	36,472	4,420,650	604	445	12	147	325,328	26,385,650
Texas	939	693	15	231	2,518,680	31,412,050	5,513	4,121	124	1,268	15,935,722	134,807,450
Louisiana	65	31	7	27	15,758	4,415,450	352	175	35	142	81,849	22,540,850
Arkansas	9	2	1	6	20	928,800	84	36	2	46	6,529	5,611,300
Southeastern States	.....	.....	.....	.....	.....	.....	10	.....	3	7	.....	.....
Eastern States	213	76	87	50	1,870	3,147,650	1,136	318	524	294	7,081	19,056,900
Michigan	46	17	6	23	7,165	1,258,100	191	102	31	58	25,406	6,768,600
Rocky Mountain States	31	25	1	5	17,255	1,549,850	80	61	4	15	29,080	8,931,800
New Mexico	19	17	1	1	52,205	1,586,250	136	101	5	30	300,884	8,897,400
California*	58	49	3	6	57,530	16,949,230	443	330	7	106	367,418	91,235,626
Totals	1,641	1,082	131	428	2,919,110	80,865,450	9,606	6,358	806	2,442	18,481,473	464,046,276

*Preliminary.

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by JACK LOGAN, Associate Editor

IN THE MIDST of virtually unquestioned "natural" recovery, grave and retarding misgivings have arisen throughout the industry over revolutionary and highly questionable legislation lately approved or contemplated by Congress. The oil industry's outlook would be particularly bright except for those political complications.

The new legislative dangers dwarf, by comparison, the hazards that were seen in original New Deal legislation, such as the recovery and agricultural acts. The new measures put upon a grand scale the "social planning" (or mis-planning) started under NRA and AAA. The new laws, approved and proposed, involve stupendous costs that make the NRA and AAA bills look like butter and egg money. The new potential restraints on industry make the original New Deal inhibitions appear like the admonitions of an indulgent mother.

Tax, Labor, Pension Laws Assured

The following measures, all affecting the oil industry, lately have been assured places among the federal statutes: (1) the resolution extending the unisance taxes; (2) the Wagner labor disputes bill; and (3) the so-called Social Security bill.

On the verge of their expiration, the nuisance taxes were extended late last week. Hopes for dropping the federal one-cent tax on gasoline thus were squelched.

Wagner Bill Is Adopted

The Wagner bill also reached final enactment last week. The measure affects the oil industry as regards employee-employer relations. It restores the collective bargaining inaugurated under NRA. It is hailed by some labor leaders as the "Magna Charta of Labor." It is disparaged by some industrial leaders as a tool for labor organizations that represent only a minority of all labor; as a fountain of industrial strife; as a potential drag on recovery. Complaining critics profess to be cheered, however, by the belief the bill is plainly unconstitutional and destined to be voided shortly by the courts.

Social Security Plan Approved

Having passed in both houses, the Social Security bill is expected to reach the White House soon, although differences between Senate and House must first be compromised. The bill is part of the President's "must" program.

The measure is endorsed by some as a bold solution of the lingering and admittedly serious unemployment and old-age insecurity problem. It is condemned, by others, as unsound and impractical, both economically and legally; as excessively costly for workers and employers; as a brake on recovery, through diversion of earnings from current business to the huge government reserves contemplated.

Under the old-age insurance part of the plan, the pay checks of 24,000,000 workers will be deducted, the tax beginning at one percent in January, 1937 and increasing to three percent in 1949 and thereafter. Meanwhile employers will be matching the workers' payments, penny for penny.

For the unemployment insurance part of the plan, the employer will pay an excise tax, to state and federal governments, starting at one percent of the payroll in 1937, and rising to three percent by 1949.

Altogether, these taxes will thus start at three percent of payrolls in January, 1937, and increase to nine percent by 1949. It appears inevitable that the workers must actually pay the full amounts of these "premiums" on their compulsory "insurance," despite the appearance that the employer will be paying two thirds of the total insurance bill. For in the long-run, wages and salaries will be sub-normal to the extent of the insurance payments or taxes. A man does not get something for nothing—not even insurance.

While employers must necessarily pass the taxes on to the workers, in the long-run, they face the prospect of having to absorb the costs temporarily,

at the outset, of permanently bearing the costs of handling the matter; and of finding the public purchasing power reduced by the tax payments.

The oil industry may be affected in various ways by the Social Security plan. Its workers and employers will go along with industry and labor generally in paying the taxes. The pension and retirement plans already entered upon by some oil companies and their workers will have to be amended or abandoned. The oil industry's markets—for gasoline and other products—will possibly be materially affected by the changed status of the current income of companies and individuals.

Branding the measure as a modified form of the fanciful Townsend old-age pension scheme, complaining critics say that the only ray of hope in the matter is the likelihood the Social Security act will soon prove unconstitutional through court tests, as did the railroad retirement plan.

A Senate amendment exempting participants in similar company-fostered plans is particularly questioned as to constitutionality, but that change has not yet been finally adopted.

Natural Gas Regulation Fades

As passed in the Senate, the Wheeler-Rayburn utilities bill would regulate natural gas pipe line companies. But as amended in a House committee last week, the natural gas section is eliminated, in view of proposed oil legislation.

Corporation Tax Changes Proposed

The oil industry would be materially affected by the "redistribution of wealth" tax plan, which the President has urged Congress to pass at this session. A bill for the purpose is in the making in the House ways and means committee.

The additional taxes contemplated would be used to cut the national debt. While raising revenue, they would also aim at the redistribution of wealth, through increasing levies on very large individual and corporation incomes, and by taxing individual inheritances in addition to the present lump levies on estates handed down.

It is readily conceded by all that this tax plan is closely akin to Senator Long's "share the wealth" proposal, the essential difference being it would tax income from property rather than property itself.

Dangers Seen in the Plan

By some, including Father Coughlin, Detroit radio priest, this new tax plan is heartily acclaimed. By others, three particular dangers are seen in the proposal, as follows: (1) the discriminatory taxes contemplated might force capital into idleness and workers into unemployment; (2) the stiff tax rates on large incomes would likely be extended later to embrace incomes in the lower income brackets; (3) the graduated tax on corporation earnings, instead of the present flat rate tax, might develop into a device for trust-busting and for limiting company earnings.

The present tax is 13¾ percent of net income, for all corporations, large and small. Preliminary reports indicate that under the new proposal the tax would be cut to 10¾ percent for companies with small income, and raised by degrees to 16¾ percent for concerns with larger income. (The talk is that the minimum rate would apply on company incomes of $2000 a year and the top rate on incomes of $20,000,000 or more annually.) In a single industry, as the oil business, one company with small earnings, whether from small size or inefficiency, would pay 10¾ percent; while another, whether because of large size or efficiency, would pay 16¾ percent.

Insignificance of New NRA

The new NRA is fulfilling general expectations by amounting to practically nothing—except a job-saver for old NRA employes. While it will presumably gather statistics, as planned, the new NRA has not decided whether or not to encourage voluntary codes, the second function originally contemplated for it. In deference to the new NRA, the Federal Trade Commission still hesitates to go into the code-sponsoring field, as requested by some industrial groups.

Half-Year Record Favorable

In the first half of 1935, the oil industry has had a generally favorable record. In comparison with the similar period last year, demand for oils has been greater and prices have been generally better, enabling numerous oil companies to show similar or improved earnings, even though last year's first half was the best since 1930.

The favorable prices that have prevailed generally this year at well, refinery, and service station, are the reflection of successful balancing of supply with demand. Proof of this balancing is the fact stocks have shown no material net change during the first six months of the year.

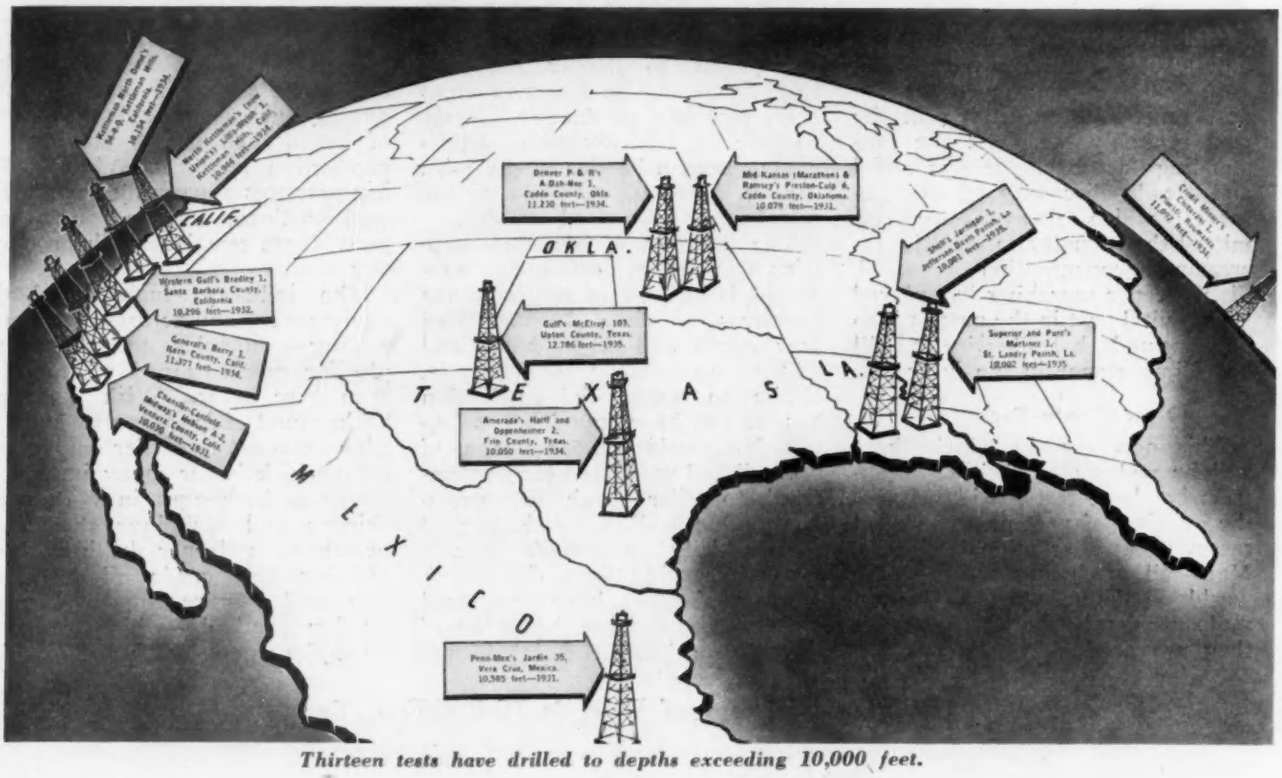
By virtue of greater demand, increased crude production was justified, stocks having been held about unchanged, while imports were somewhat curtailed. Thus despite a successful program of production restriction, crude output of the country was increased 6.5 percent above that in last year's first six months.

Oil Markets Disturbed Lately

Although on generally high ground, the oil industry's markets now have insecure footing in some spots. Voluntary proration is proving inadequate in California, and there is talk of reducing crude prices. In southern California, gasoline prices, wholesale and retail, are depressed. Although efforts are being made within the industry to stabilize the California situation, immediate success does not appear likely. California has no state oil control program, like the other leading oil producing states, and with the voiding of NRA, had to revert to voluntary proration.

Last week also brought lowering of postings for Pennsylvania crude.

Outside those western and eastern areas, however, prices have remained unchanged for the past two weeks, at well, refinery, and service station, with state control programs functioning normally. The Mid-Continent and Eastern markets promise to continue about in their present status for some time although the outlook is slightly marred by reports that hot oil output is increasing somewhat in East Texas.


CALIF.
Western Gulf's Bradley 1, Santa Barbara County, California 10,296 feet—1932.
General's Berry 1, Kern County, Calif. 11,371 feet—1934.
Chanslor-Canfield Midway's Watson A-2, Ventura County, Calif. 10,030 feet—1933.
Denver P. & R.'s A. Bish-Wee 1, Caddo County, Okla. 11,230 feet—1934.
Mid Kansas (Marathon) & Ramsey's Preston-Culp 6, Caddo County, Oklahoma. 10,079 feet—1933.
OKLA.
Gulf's McElroy 103, Upton County, Texas. 12,786 feet—1935.
T E X A S
Amerada's Hoiff and Oppenheimer 2, Frio County, Texas. 10,050 feet—1934.
Shell's Jamagin 1, Jefferson Davis Parish, La. 10,083 feet—1935.
Superior and Pure's Martinez 1, St. Landry Parish, La. 10,002 feet—1935.
LA.
M E X I C O
Penn-Mex's Jardin 35, Vera Cruz, Mexico. 10,585 feet—1931.

Thirteen tests have drilled to depths exceeding 10,000 feet.

10,000 Foot Drilling

HAS DEFINITELY ARRIVED AND IS OF ECONOMIC SIGNIFICANCE

By WARREN L. BAKER, Editor

WITHOUT question the industry definitely has entered an era in which the drilling of 10,000-foot holes will become the usual rather than the unusual. The near future will see drilling depth records exceeding any we now have. At present the ability to penetrate the earth to 10,000 feet has become so common, because of the number of tests that have achieved this mark and due to the drilling of a 12,786-foot hole, that four recent wells have bored to 10,000 feet without creating undue interest or comment.

Notwithstanding the fascination, honor and publicity connected with drilling to new record depths, the actual scientific value of the achievement is of much more importance. Men and concerns who drill deeper than previous tests are advancing drilling technique to a higher plane. The excitement surrounding the accomplishment of such feats is but temporary, but of permanent value are the methods and types of equipment used. These enable the industry to improve drilling practices and machinery to the extent that drilling of unusually deep holes becomes easier and safer, as well as eliminating the mental hazards frequently associated with 10,000-foot operations. It is these factors that have permitted the industry to advance today to the position that drilling two miles into the earth is no longer considered a lucky or miraculous occurrence, but a straight out and out engineering problem.

Economic Importance

This development is more than a mechanical and technique advancement. It is of importance from an economic standpoint. The mechanics and operating practices in drilling such deep tests appears to have been well solved so far as actual drilling is concerned, but there are production mechanics and engineering methods yet to be developed. Therefore, practically the only remaining drilling problem is that of economics. How deep can a commercial well be drilled? Another economic angle to consider in the drilling of 10,000 foot tests is the present need for additional crude oil reserves, and without doubt deep boring will be an important factor in the discovery of additional supplies.

Ever since that eventful day in 1859 when Colonel Edwin Drake successfully completed the world's first oil producing well, the drilling bit has penetrated farther and farther into the earth in search of additional petroleum supplies. Even during the recent "over-po-

tential" age, the hunt went on and on, and the world saw the drilling of 10,000 feet and more for the first time. Deeper drilling in the past probably has been the outstanding factor in the successful and steady discovery of new reserves, which always have permitted the industry to meet its increasing consumption demand. Since deeper searching has played such a vital part in the past, it is to be expected that likewise it will be of importance in the future.

New Crude Reserves

This new era, in which there will be widespread drilling of extremely deep tests, will witness the opening of vast new crude oil reserves at exceptional depths. Many oil producing areas of the world no doubt carry production at deeper depths than from whence they are producing today. These areas in many cases will be drilled again, but to deeper horizons. Production will be found in areas heretofore non-productive largely because of the excessive depths having been a barrier in the past. Future crude oil reserves of the world must be revised upward.

The question of crude oil supplies that are to be found at new depths is but one of the economic problems of deep drilling. Just how deep a well can be drilled and still be commercial is debatable. While no commercial production has, as yet, been found below 10,000 feet, sufficient showings of both oil and gas have been encountered to offer much encouragement. One well is producing 50 barrels daily on gas-lift from a depth exceeding these figures. A number of wells have registered strong gas pressures, but none of them have been completed successfully. Therefore an economic, mechanical and technique problem to be solved is that of completing such deep tests. Likewise of importance is the solving of production methods. While drilling practices apparently have been well outlined, for the present at least, there remains much production work.

The industry, including both equipment manufacturers and operating companies, today is employing more trained technicians than ever before. With a richer background of fundamental knowledge than left to earlier engineers, the outlook is for many improvements and changes in both machinery and technique that will permit even deeper drilling, thus opening new crude oil reserves that will require improved production methods—which demand must be met by future work.

Tabulated History of World's 10,000-Foot Tests

COMPANY AND WELL	Location	Depth (Feet)	Date	Casing Program	Record	REMARKS
Gulf Production Company's McElroy 103	McCamey, Upton County, West Texas	12,786	May, 1935	10¾ inch 4017 feet; 7⅝ inch, 10,301 feet.	Deepest test in the world. Longest casing string in world. First 12,000-foot hole.	Several shows below 10,000 feet. Now plugging back. Spudded 3-21-33. No lost-time accidents.
General Petroleum Corporation's Berry 1	Belridge, Kern County, California	11,377	June, 1934	20 inch, 728 feet; 13⅜ inch, 4534 feet; 8⅝ inch, 7752 feet; 6⅝ inch, 9717 feet; 4½ inch liner, 11,377 feet with seven foot gap at 9623-9616 feet.	Second deepest test in world. First 11,000-foot test.	Several shows, being reworked.
Denver Producing and Refining Company's A-Dah-Noe 1	Binger, Caddo County, Oklahoma	11,230	July, 1934	15½ inch, 126 feet; 9 inch, 6238 feet; 6⅝ inch, 9922 feet.	Deepest test in Oklahoma. Deepest producer in world. Fishing job deepest in world.	Gas-lifting 50 barrels daily. Had strong pressure before fishing job occurred.
Credit Minier, S. A. R. Chitorani 1	Ploesti, Roumania	11,092	July, 1934	16 inch, 594 feet; 8⅝ inch, 7977 feet; 5¾ and 5½ inch combination liner, 11,021 feet, perforated 10,727 to 11,021 feet.	Deepest outside United States. Deepest perforating job. Only 11,000-foot test outside United States.	Good showings, but none tested commercial.
North Kettleman Oil & Gas Company's (Ed McAdams) Lillis-Welsh 1	Kettleman Hills, California	10,944	April, 1933	18⅝ inch, 1082 feet; 11¾ inch, 6710 feet; 7 inch, 9642 feet.	Once deepest test in world.	Registered high gas pressure, but fishing job prevented testing. Union Oil Company has taken over and is trying to reach bottom again.
Penn-Mex Fuel Company's Jardin 35	Alamo, State of Vera Cruz, Mexico	10,585	Aug. 1931	22 inch, 190 feet; 16 inch, 2236 feet 13½ inch, 2735 feet; 9⅝ inch, 5200 feet.	First 10,000-foot test outside United States and holder of worlds record for nearly two years.	Usual drilling feat due to encountering strong flows of extremely high temperature salt water.
Western Gulf Oil Company's Bradley 1	Santa Maria Field, Santa Barbara County, California	10,296	July, 1932	16 inch, 853 feet; 9 inch, 4706 feet; 5¾ inch, 5990 feet.	At the time the deepest test in the United States.	
Kettleman North Dome Association's 56-8-Q	Kettleman Hills, California	10,249	June, 1935	20 inch, 1200, feet; 13⅜ inch, 6847 feet; 9⅝ inch, 8304 feet.		Plugged back from 10,154 feet, and redrilled.
Mid-Kansas Oil & Gas Company (now Marathon Oil Company) and Ramsey Petroleum Corporation's Preston-Culp 6	Cement Field, Caddo County, Oklahoma	10,079	Oct., 1931	12½ inch, 64 feet; 9 inch, 5515 feet 6⅝ inch, 9777 feet.	First 10,000-foot hole east of Rocky Mountains. Record casing string at time.	Plugged back. Several shows.
Amerada Petroleum Corporation's Halff and Oppenheimer 2	Pearsall, Frio County, South Tex.	10,050	Nov., 1934	15½ inch, 289 feet; 9⅝ inch, 4952 feet.	First South Texas 10,000-foot test.	Plugged back to 4,000 feet, small producer.
Chanslor-Canfield-Midway Oil Company's Hobson A-2	Ricon, Ventura County, California	10,030	May, 1931	18⅝ inch, 795 feet; 11¾ inch, 4326 feet; 8⅝ inch, 6640 feet; 5⅝ inch, 7479 feet; 4 inch, liner 8,126 feet.	First 10,000-foot hole in world.	Plugged back to 7500 feet.
Superior Oil Producing Company and Pure Oil Company's Martinez 1	Bosco Field, St. Landry Parish, Louisiana.	10,002	Jan., 1935	13⅜ inch, 1226 feet; 7 inch, 9325 feet; perforated 9052-68 feet.	First Louisiana 10,000-foot test.	
Shell Petroleum Corporation's Jarnigan 1	Roanoke Field, Jefferson Davis Parish, Louisiana	10,001	Feb. 1935	9⅝ inch, 7476 feet; 7 inch, 8743 feet.	Latest test to reach 10,000 feet.	Tried to blowout, plugged back, now redrilling.

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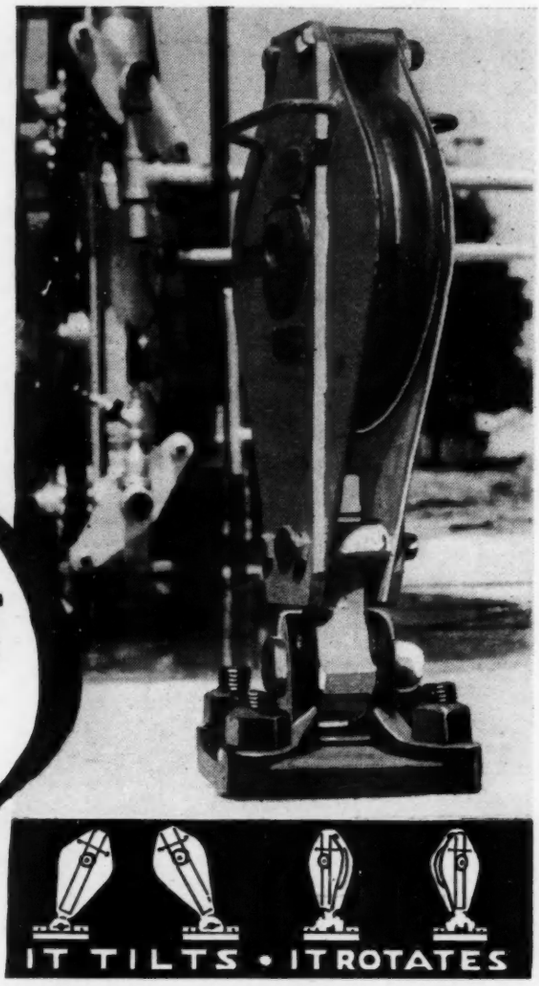

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Many interesting developments, some of a nature now undreamed of, lie ahead of the petroleum industry.

A Definite Trend

Depth records have become deeper and deeper, year by year. No doubt the ability to drill to 1000 feet was considered just as wonderful an achievement when first accomplished, as was the 72-year later drilling of a 10,000-foot hole, but such depths have become quite commonplace and are merely surface casing points today. It is likely that what we now consider deep tests will become every day feats in the future. Recently, the drilling of tests to 10,000 feet has gained impetus; last year four tests went beyond 11,000 feet and one of these has just been bottomed at 12,786 feet. In view of these developments, it cannot be denied that such footage records are to become quite common in the near future.

Four years ago last month the drilling of 10,000-foot tests became a fact and not a possibility with the completion at Rincon, Ventura County, California, of Chanselor-Canfield-Midway Oil Company's Hobson A-2 at 10,030 feet. Three months later Penn-Mex Fuel Company had carried a test in Vera Cruz, Mexico, to 10,585 feet, and two months afterward an Oklahoma test had reached 10,079 feet.

Thus, in 1931 there was inaugurated with startling force the practice of searching for oil supplies at depths approximating two miles. Although 72 years were required for drilling depths to increase from 6912 feet to 10,000 feet, a total of 13 wells now have exceeded the latter footage; four of which have gone beyond 11,000 feet, and one of these has reached 12,786 feet.

These facts definitely forecast that the industry will see increased drilling of this type within the next few years. This statement is further borne out by recent drilling records, which show that five of these thirteen 10,000-foot holes reached that depth during 1934, and eight during the past 18 months. Thus far in 1935, two new tests have passed 10,000 feet in depth; one well that had reached 10,000 feet last year has drilled ahead to 12,786 feet, and at present four of these 10,000-foot holes are being reworked in an effort to obtain production.

Still further carrying out the idea that drilling of 10,000 foot and deeper holes is here to stay and will become more common, is the increase in record depths. At the end of 1931 the deepest test ever drilled was 10,585 feet below the surface. This same footage mark held drilling honors until April, 1933, when it was extended to 10,944 feet. Thirteen months later the deepest hole record had been acquired by a well bottomed at 11,377 feet, and which was the first 11,000-foot test. However this was quickly followed by two others in which the bit reached 11,000 feet the succeeding month, although not breaking the record. Then in May, 1935, Gulf Production Company's J. T. McElroy 103, in Upton County, West Texas, became the champion with a record of 12,786 feet, or 1400 feet deeper than the previous title holder.

15,000 Feet Is Likely

This rapid increase in depth of the world's deepest tests (2201 feet in two years), despite the fact that it undoubtedly is more precarious at such footage than in shallower holes, makes one wonder what is the ultimate maximum depth. Certainly, 15,000-foot holes are possible with present-day equipment and technique, and not far in the future. It is not unwise to predict depths of 20,000 feet at the rate drilling machinery and knowledge is increasing.

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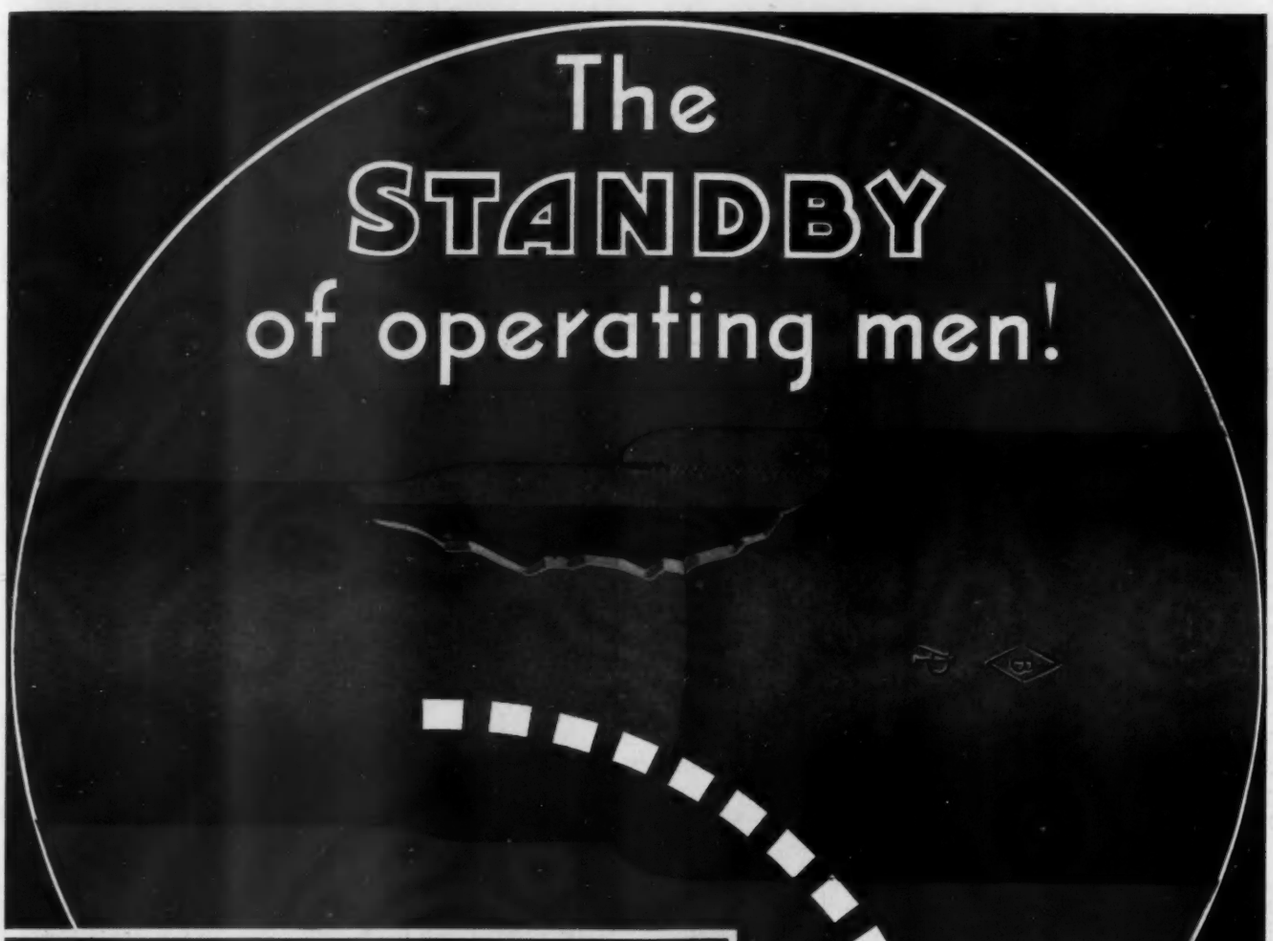

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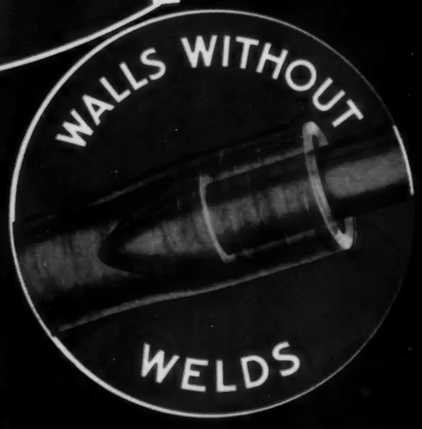

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MEN IN THE INDUSTRY'S NEWS

A. S. PARKS, petroleum engineer with Stanolind Oil & Gas Company in Houston, has resigned, effective July 1, to enter consulting business, specializing in bottom hole pressure, gas oil ratios, and water analyses. His office will be in 1806 Sterling Building, Houston.

RUSSELL F. RYAN, chairman of the Association of Greta Field Operators, has opened an office in the Sterling Building, Houston. Mr. Ryan has been consulting geologist in Houston for a number of years.

A. O. "ART" OLSON, president of Olson Oil Company and Olson Drilling Company, was general chairman of the Southwestern Air Races, held in Tulsa on Saturday and Sunday, June 29 and 30. This was the first air meet of national importance held in this part of the country.

DAN CAMERON, scout for Carter Oil Company, has been transferred to the Oklahoma City district succeeding Nelson Y. Ruth who was transferred to the company's Rocky Mountain district.

DR. CHAS. N. GOULD, pioneer Oklahoma geologist and former director of the Oklahoma Geological Survey, was a luncheon speaker before the Oklahoma City Geological Society on Monday, June 24, at which time he presented, "The Pioneers of Oklahoma Geology."

GEORGE PIRTLE of Hudnall & Pirtle of Tyler, Texas, arrived in Mt. Pleasant June 25 and plans to spend two months or more in consulting geology work with the McClanahan Oil Company. Pirtle is familiar with Michigan geology and development, having spent considerable time here for the past five years.

JAMES W. TOWART, formerly in the engineering department of Carter Oil Company in the Seminole district and now chief production engineer for Romana-Americana Oil Company in Roumania, is to spend the next month visiting oil fields of the United States and studying new equipment and methods before returning to Roumania. Tulsa was the first point on his itinerary.

JAMES A. VEASEY, vice president and general counsel for Carter Oil Company, had several hundred interested listeners when he discussed the importance of the supreme court's invalidation of NIRA at a luncheon meeting of the Tulsa Chamber of Commerce held Friday, June 21.

P. W. D. CRAIG, general headquarters Anglo-Persian Oil Company, and W. N. Gemmill, engineer formerly with National Oil Refineries, England, have been transferred to Iran.

J. R. McWILLIAMS HAS SPENT 16 YEARS IN PETROLEUM ENGINEERING PROFESSION

ALWAYS ACTIVE IN A. P. I., AND TWO MONTHS AGO WAS ELECTED FIRST CHAIRMAN OF TULSA'S NEW CHAPTER

WHEN J. R. McWilliams was elected chairman of the recently formed Tulsa chapter of the American Petroleum Institute Division of Production, it was no new office for him. He has been active in this division of the Institute for many years, and has served as chairman of the Mid-Continent division of production, and as chairman of the central committee on district activities. In addition, Mr. McWilliams has presented a number of interesting papers. At present he is proration engineer for Carter Oil Company, but has been associated with other concerns since he entered the petroleum engineering profession immediately upon graduation from the University of Michigan in 1919. His first job was that of running a geologist plane table at Ranger, Texas. McWilliams spent one year in the gasoline department of the now defunct Oklahoma Petroleum Gasoline Company, and then was transferred to the company's production department. The next three years he was doing depletion appraisal work for Freeborn Enginering Corporation. After spending one year as chief engineer for Crusader Pipe Line Company at El Dorado, Arkansas, he entered the production department of Skelly Oil Company, where he rose to the position of chief engineer. He resigned this position on September 1, 1934, to become assistant proration umpire in the state of Oklahoma. On April 1, 1935, he resigned to become associated with Carter Oil Company, where he now handles all proration matters.

HUGH STEVENS, Kansas superintendent of production for Olson Oil Company of Tulsa, was reported making satisfactory progress in a Hutchinson, Kansas, hospital, after sustaining severe injuries in an automobile mishap on Saturday evening, June 22. The accident occurred eight miles east of Hutchinson when Stevens had a blow out and his car turned over several times, throwing him into water several feet deep.

R. E. "BOB" CHANDLER, assistant division manager of production for Magnolia Petroleum Company in the Oklahoma City division, visited the general offices of the company at Dallas early last week while en route to several of his favorite fishing spots in Louisiana as part of a vacation itinerary.

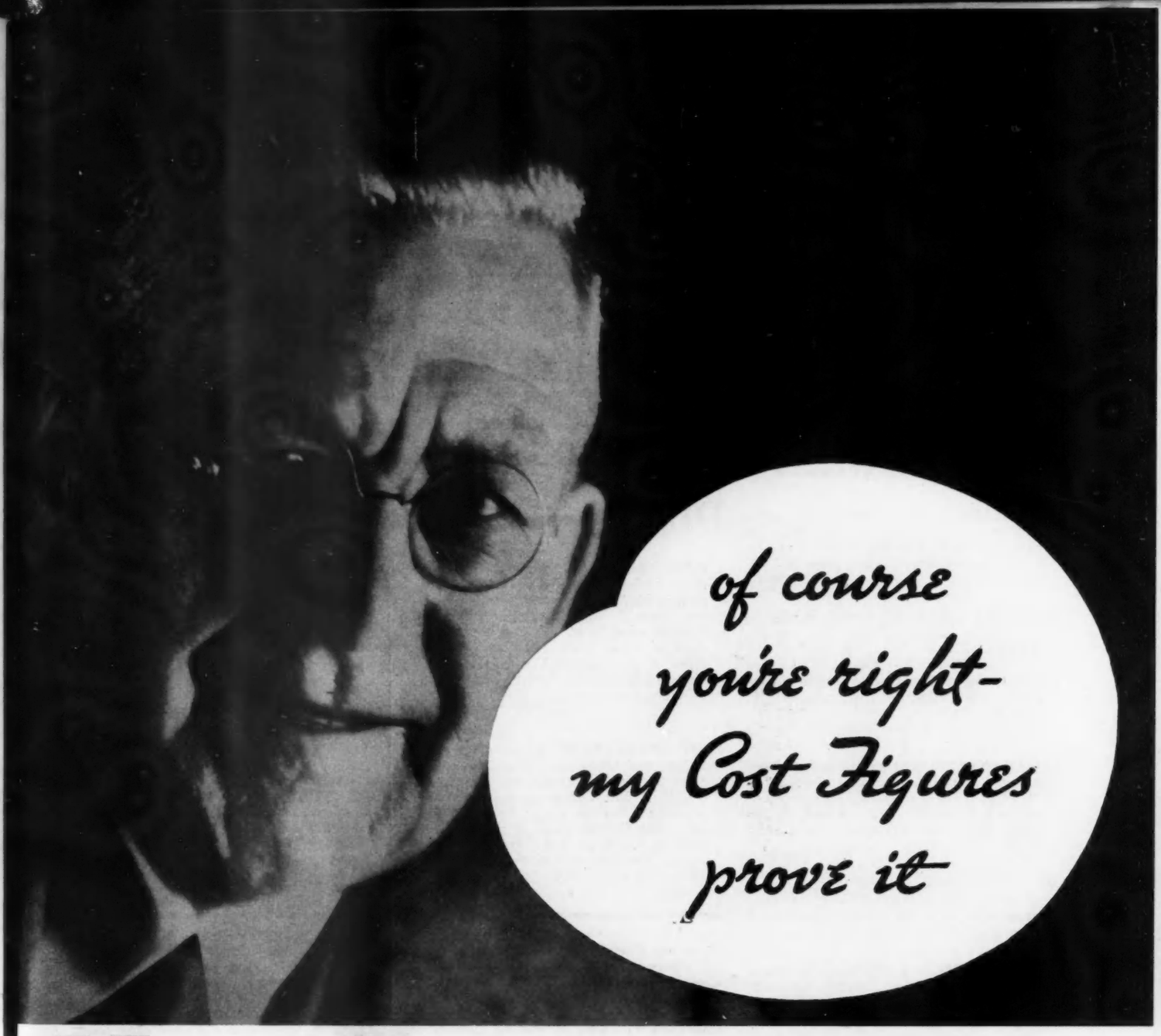
MAURICE MERCIER, general secretary of Compagnie Francaise des Petroles and vice president of the economic section of the French Association of Oil Technologists, delivered a paper on the pipe lines of Iran and the oil fields of Kirkuk before a session of the above association in Paris on June 13.

R. R. ROBINSON returned to Los Angeles June 20 from a nine months' trip to oil centers in Great Britain, Holland, Roumania and other points as a special representative of the Universal Engineering Company.

L. W. STORM, Sun Oil Company, gave an illustrated talk before the Houston Geological Society on the evening of June 27 at the auditorium of the Houston Public Library. He discussed the national parks of the Southwest and of Alaska.

O. T. DAWSON, vice president of National Supply Company, Tulsa, has returned to his office completely recovered after an illness of several weeks.

KENNETH H. CRANDALL, resident geologist for The California Company at Alice, Texas, was called to Los Angeles



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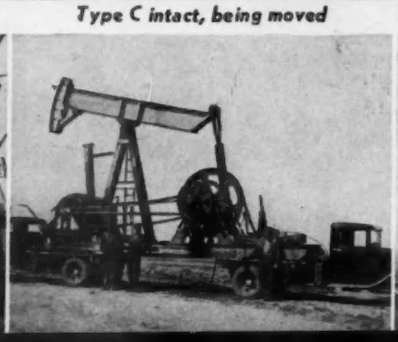
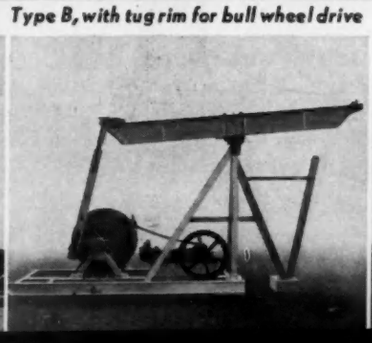
pe C, with chain driven bull hoist

Type C intact, being moved



Type B, with tug rim for bull wheel drive



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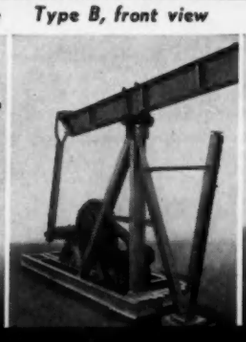

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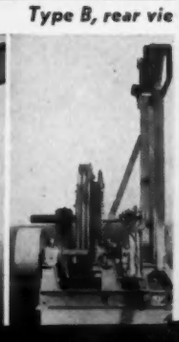


June 18 due to the death of his father, Dr. Walter G. Crandall, who was killed when struck by an automobile. Mr. Crandall returned to Texas June 23.

M. T. LLOYD, managing director of Commonwealth Oil Refineries of Australia, recently made a trip to London, England, to confer with officials of Anglo-Persian Oil Company.

CHARLES GILL MORGAN, who was the chief geologist and geophysicist for the Byrd Antarctic Expedition II, has returned to the United States, and now is with Seismograph Service Corporation, Kennedy Building, Tulsa.

W. C. MITCHELL, National Oil Refineries, England, is temporarily acting as deputy general manager of production in Iran, for Anglo Persian Oil Company.

H. T. KEMP, concessions branch of Anglo-Persian Oil Company in London, has been appointed assistant secretary of the company, succeeding the late J. W. Reoch.

RICHARD AIREY, W. Gould, R. G. A. van der Woude, J. C. Van Eck, and H. Wilkinson, have been elected to the board of directors of Colon Oil Corporation, the number of directors being reduced from eight to five. Arthur H. Bunker, chairman, Ernest Stauffen, Jr., and Harold J. Wasson retired.

DANA HOGAN, well known independent oil producer of California, and Mrs. Ida Hollister Porter, of Santa Monica, were married June 26 at the home of the bride. The couple will spend their honeymoon in Honolulu.

W. C. CLEMONS, assistant superintendent of production for Gulf Production Company, Houston, has returned to work after several weeks of illness.

MISS FLORENCE LUNDELL, in charge of the Tulsa Public Library Technical Department, has left for a month's combined vacation and business trip to Colorado. She will attend the annual meeting of the American Library Association in Denver.

RALPH J. REED, member of the American Society of Civil Engineers and American Society of Mechanical Engineers, American Petroleum Institute and other organizations, has moved to the Edison Building in Los Angeles.

NICK CARTER, Waurika, Oklahoma, has been assigned to Gulf Production Company's geological staff at Midland, Texas.

JOHN C. MILLER, chief geologist in the Southwest Division for The Texas Company, with headquarters in Houston, is spending a few days in San Antonio on a business trip.

MAURICE E. BRIDEMAN, acting representative for Anglo-Persian Oil Company, Ltd., in the United States, with headquarters in New York, has sailed for Europe, where he will spend the summer.

FOREST DORN, president of Forest Oil Corporation, Bradford, Pennsylvania, and Mrs. Dorn, sailed recently from New York for England and France.

FORREST M. TOWL, chairman of the board of the Southern Group of Pipe Lines, has been given a degree of Master of Civil Engineering from Cornell University, from which school he graduated in 1886 with the degree of Bachelor of Science. Mr. Towl also holds a Bachelor of Civil Engineering degree.

CLAUDE E. AIKMAN, vice president of Cardinal Oil Company, San Angelo, Texas, has been appointed a lieutenant colonel on Governor James V. Allred's personal staff.

DIED:

J. CARL SMITH, 74 years old, vice president of Minnehoma Oil & Gas Company, died in his Tulsa home on Sunday morning, June 23. Death was due to the infirmities of old age. He had been a resident of Tulsa since 1914 and was for many years associated with George F. Getty of California, former head of the Minnehoma company.

H. H. GALBREATH, 76-year old pioneer Kansas and Oklahoma oil producer, died June 24 at a Grand Rapids, Minnesota, hospital. Mr. Galbreath came to Independence, Kansas, where he maintained his home, in 1901, and at one time was with H. F. Sinclair. He was instrumental in the development of the Canary and Leonard pools of Oklahoma.

J. C. KERR, superintendent of production for Sun Oil Company in the Huntsville, Texas, division, was fatally injured June 21 in an automobile crash near Groveton, Texas. Kerr was recently transferred from East Texas to Huntsville to take charge of new division which includes the Livingston and Kittrell fields. The body was shipped to Eau Claire, Pennsylvania, former home of the deceased, for burial.

HARRY E. LEMAR of San Antonio, Texas, died suddenly in Houston on June 21. He was 49 years old, and had operated in Oklahoma and Texas fields for a number of years. At the time of Mr. Lemar's death he was active in Southwest Texas fields. He is survived by his wife, of San Antonio, and two brothers: A. B. Lemar of Los Angeles and Clarence of Chicago.

PAUL A. SANKY, 41, geologist and engineer of San Antonio, was found dead at his home June 24. He was a native of Mifflinburg, Pennsylvania, and a graduate of Pennsylvania State College. He spent three years in South America, after which he returned to the United States, doing considerable government work. He had been associated with several oil companies.

SAM COKE, driller for Harris Drilling Company, of San Antonio, died in Tuleta field, Bee County, June 26.

B. C. CHRISLEY, 31 years old, oil field worker, was fatally injured when he fell from the derrick on Stanolind Oil & Gas Company's Fee Land 1, discovery well in the South Houston field. Chrisley lost his footing and fell to the derrick floor.

Here are three men who played an important part in one of South Texas' newest oil discoveries. Left to right: Fred W. Shield, president of Illinois Petroleum Corporation; Byron Rife, president, Texas Oil Company; and J. E. Redburn, South Texas representative for Saltmont Oil Corporation. All are from San Antonio. Illinois Petroleum Corporation and Texaco Oil Company drilled J. W. Atkinson 1, south McMullen County wildcat, which opened the Loma Alto field. Saltmont Oil Corporation owns considerable close in acreage.

(Photo courtesy Early Deane, San Antonio).

California Oil Reserves

IN PRESENT FIELDS INDICATE NEED FOR APPRECIABLE NEW DISCOVERIES

Another chapter of THE OIL WEEKLY'S series on the U. S. crude reserves

By J. EDMUND EATON, Consulting Geologist
Los Angeles, California

PART 1

Proven Reserves

SUPPLY of refinable crude in California may fail to equal demand in 1941 unless appreciable new reserves are uncovered. After that date the present fields will seemingly be unable to meet refinery needs by an increasing margin unless supplemented by large discoveries. Since it is advisable to have several years requirements continuously in sight, this allows of no delay in prospecting for additional sources.

The impression conveyed by the present immediate potential is deceptive, for this represents an abnormal drilling of proven supply with relatively little held in reserve. Figure 1 shows relations between proven supply and cumulative production over the past 20 years. Despite the enormous and unprecedented discovery cycle between 1919 and 1929, the state has now little more reserves than it had 20 years ago, and, considering increased demand, it has less.

Since 1929 the ratio has been one desirable for normal conditions, with the depreciated markets of this period due to a transient townlot flash which has obscured the otherwise normal ratio. With a resumption of substantially normal markets seemingly but a year or so distant in this province, the absence of any true oversupply may soon become apparent.

Overproduction during recent years, as differentiated from excessive reserves, has resulted from a peculiar coincidence. Real estate promotors laid out townsites on gentle mounds in Los Angeles Basin. These mounds proved to be anticlinal swells, with the result that several great oil fields discovered almost simultaneously were owned in 50-foot parcels. Current oversupply was inevitable due to the quick profits obtainable. My first client, an elderly lady, netted close to $350,000.00 in royalties from one 50-foot lot. Thousands hurried to obtain such returns. Ensuing overproduction has hidden the fact that the proved supply of California is meager.

Let a discovery cycle be delayed, as is possible, and in six years the state will be importing crude. I do not say this in any alarmist attitude, for California is less than half prospected, and with reasonable diligence the current rate of production might be maintained for many years. I do not personally subscribe to the untimely exhaustion theory, human experience being that no important resource has ever been exhausted without some substitute that is better taking its place. I merely call attention to the feature that the recent overproduction has been due to a coincidence of townlot discovery, that this transient phase is now nearing its end, and that the actual proven reserves of the state are so small that new discoveries must be planned for immediately if a safe margin is to be maintained.

Figure 1 presents those estimates by geologists of the total visible supply at various periods which are available to me. The rising estimates of the proven reserves do not indicate underestimates, but reflect new discoveries, either new fields or deeper zones, added between estimates. Estimates of prospective reserves are subject to enormous error; those of proven reserves, on the other hand, tend to be close approximates.

Subsequent recoveries indicate that the older estimates plotted in Figure 1 were reasonably accurate for their time; current ones are therefore presumably within reason. Given a fair estimate of proven oil, current demand, and a projected future demand, certain broad trends may be seen, which, while they cannot be delimited for the future exactly, may be approximated in such a manner as to recognize their larger features.

The most recent estimate of California's proven reserves to come to my notice is that by Collom (Petroleum World Annual Review, 1934). He computed the total proven oil as of June 30, 1934, to be 7,466,400,000 barrels. Of this amount 4,162,985,947 barrels had been produced, and 3,303,414,053 barrels constituted the visible future reserve. Later developments

lead me to believe that Kettleman Hills may produce somewhat less, and certain deep-zone fields somewhat more, than the proportions Collom assigned, but his totals impress me as being a close approximation of the aggregate proven supply at their date.

Since that estimate appeared the Playa del Rey field has been extended, the new area giving higher initials than the old one. New boundaries have not been found at this writing, and the large initials, so far almost free from water, suggest that the field limits may be pushed well out in certain directions. While no accurate estimate is possible under the circumstances, it is considered for the present that 15,000,000 barrels has been added to the proven possibilities of this field.

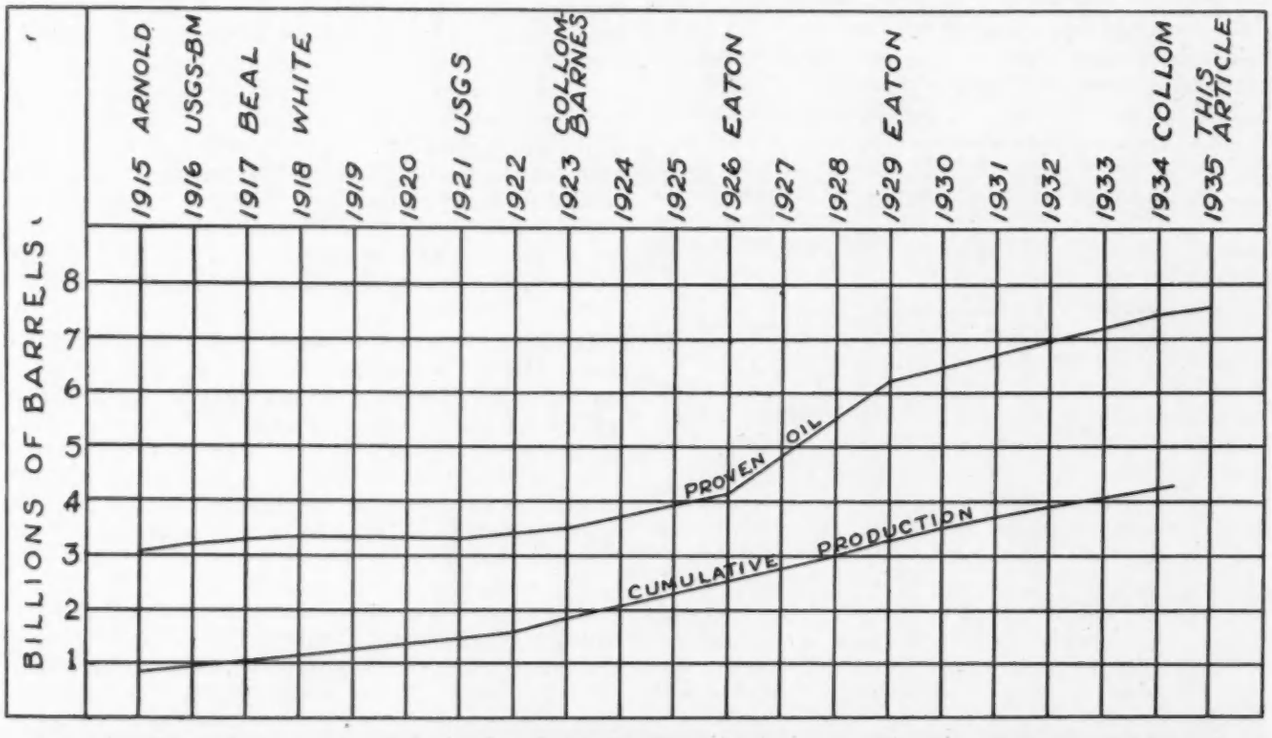
At Inglewood several hundred feet more of the large, almost untapped deep zone has been proved. The productivity of the full zone seems almost certain. Adjacent fields, without exception, produce from the lower horizon. As more error would be courted by excluding lower portions than by including them, those lower portions undeveloped by mutual agreement are here viewed as being in effect proven, and are computed at 85,000,000 barrels.

Mountin View has been extended somewhat, increasing its known reserve perhaps 20,000,000 barrels.

Adding this 120,000,000 barrels uncovered in nine months to the 1934 status, the total visible supply in California, as of April 1, 1935, is indicated to be in the neighborhood of 7,586,000,000 barrels, of which approximately 3,290,000,000 barrels remains to be produced.

FIGURE 1

Total ultimate proven oil and cumulative production in California during the last 20 years. Considering increased demand the proven reserve is less adequate than in 1915.



Availability of Reserves

It will be obvious that settled fields developed and producing near capacity, though reserves, are not in the form of supply materially flexible upward. Only production which can increase can meet an increasing burden. As such, it is this latter which will be discussed. Exclusive of fields whose trend is indicated to be prevailingly downward, and others of minor flexibility or importance, the expandable supply in California is located as follows:

DEEP ZONE RESERVES: Inglewood, Ventura Avenue, North Belridge, Dominguez, and West Coyote. These are listed in the order of their computed importance as reserves. Some have essentially virgin deep zones; others have deep zones partly developed. All are spaced fields in the hands of large operators, and are expected to see intensive development only when conditions warrant such. To what extent each will remain an expandable reserve is problematical, depending largely on market conditions. As most of their deep zones are being slowly but steadily drawn upon, the emergency contribution of these depends on how soon they may be required.

AREAL RESERVES: Kettleman Hills, Elk Hills, Mountain View, Mount Poso (fuel oil), Fruitvale, Round Mountain, Montebello, Playa del Rey, and

San Miguelito. Listed in the order of their computed importance as reserves. All except Round Mountain are chiefly owned by large operators, and are expected to be held to a considerable degree in reserve. To what extent each will remain an expandable reserve is likewise dependent on market conditions and the time of call, as all are being more or less developed at present.

Indicated Trends

Figure 2 has been prepared to show the necessity for new discovery. It is not to be taken as a prediction of shortage or of the precise future, for new discoveries, and changing exports, prices, and development will almost certainly modify the present outlook, but as indicating certain broad trends.

The excessive production in California at times during the past 12 years has been chiefly a flush yield sustained by an intensive drilling of many new fields and deep zones. The decline from initial productions is enormous; a feature which those who calculate potentials in various provinces do not always adequately consider, with the result that vast paper potentials arise. The townlot era is seemingly drawing to a close. For it to regain its former magnitude is geologically improbable, although occasional new fields and deep zones of this nature may be uncovered from time to time. The average of around 100,000,000 barrels a year that such fields have contributed for the past 12 years must in the future be in large part supplied from the now throttled fields in the hands of large, cautious operators.

Townlot areas that once staggered the world—Long Beach, Huntington Beach, Santa Fe Springs, and lesser lights—are now staid old fields of creaking pumpers. Playa del Rey is at present singing the swan song, in a subdued voice, of that giant race.

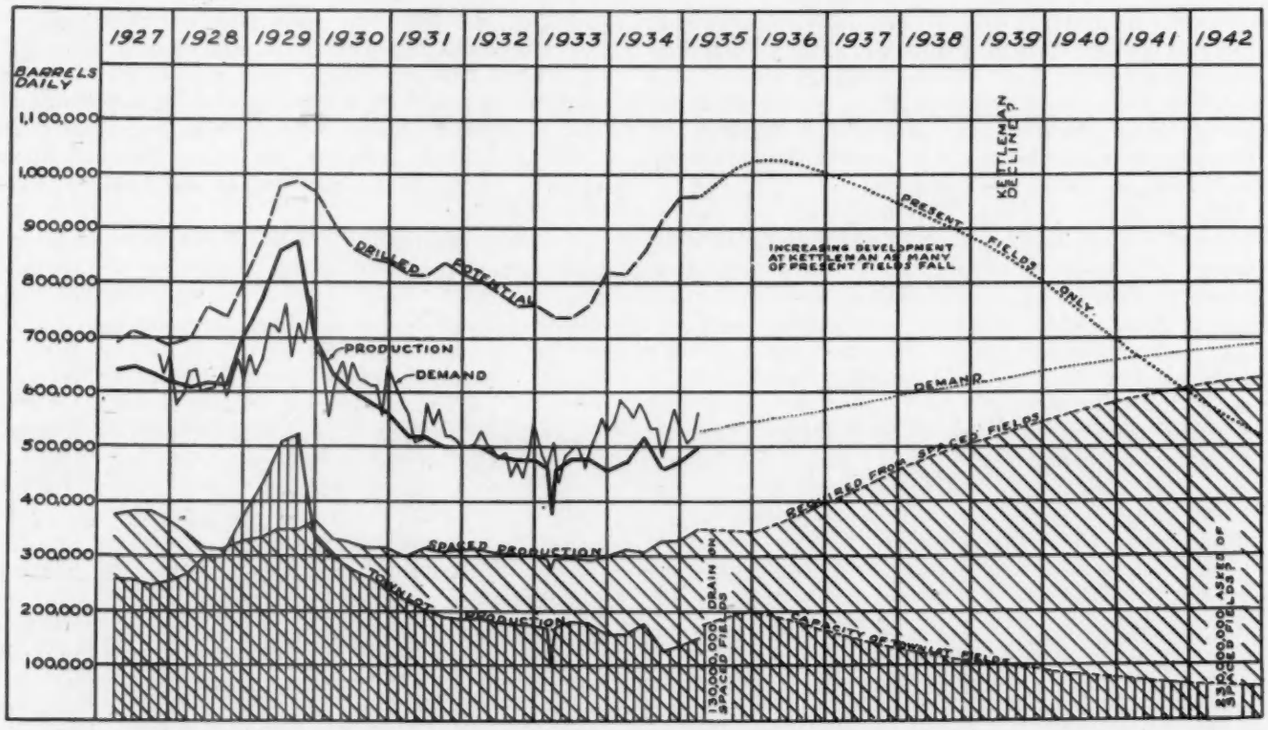
The most significant factor brought out by Figure 2 appears to be the rising future drain on spaced fields. During the current year 1935 this drain on the spaced fields alone will approximate only 130,000,000 barrels, or about the figure it has averaged over 12 years. In the next seven years, however, the drain on spaced fields alone is indicated to rise to around 230,000,000 barrels a year.

The spaced reserve has no more than held its own in 20 years, the increased production having come from townlot fields which are now declining. Newly added reserves at Kettleman Hills, North Belridge, and Mountain View, only offset subtractions at Midway-Sunset, Elk Hills, Kern River, Brea-Olinda, Coyote, Montebello, Richfield, Santa Maria, etc. New deep zones at Inglewood and Ventura Avenue offset the depletion of shallow zones there.

Oil required from spaced fields will seemingly rise some 12 or 13 percent a year above the present base, a step-up at the end of seven years of 100,000,000 barrels a year. With the spaced reserve little or no larger than twenty years ago, even after an enor-

FIGURE 2

Trends in California. The projected curve for potential charts known source only. In the event of delayed discovery supply may fail to equal demand in 1941. Decline of townlot production will rapidly increase the requirement from spaced fields. New finds will doubtless modify this picture, which is presented to show them necessary.



mous discovery cycle, the need for new proven supplies should be apparent. Kettleman Hills, if opened up, could furnish the deficiency for perhaps three or four years before crumbling, and then that reserve would be gone. Mountain View, if it were possible to produce all of its oil at once, might add another six months.

To yield at a rate 275,000 barrels per day greater than at present, and still retain a reserve, the spaced fields must be augmented in the next seven years by new discoveries on the order of the last seven.

An interesting feature of the townlot: spaced ratio charted in Figure 2 is the marketing implication. The price structure, held near cost for several years due to townlot crude, should rise in the near future to more profitable levels. This tendency may be apparent in 1936, with somewhat settled conditions in 1937 as the floating supply decreases. Discovery of new reserves is not expected to retard such a trend, as the more disorganized markets of recent years have been a townlot disturbance, and will presumably pass with that phase.

Kettleman Hills Overrated

The most variable factor in current estimates of the proved reserves of California is Kettleman Hills. No satisfactory decline curve is as yet available there, and, not being a typical California field, the curves of other fields cannot, with accuracy, be applied to it. Estimates of its ultimate yield which have been made in the past, and those which may be made for some time to come, must therefore include a large proportion of guesswork. However, a great oil field covering 25 square miles, with a productive range 1500 feet thick at its center, must be assigned a figure in any estimate of the proven supply.

Following the initial discovery, and others extending the possibilities, estimates were high. More recently qualifying factors have been recognized, and there is at present a tendency to recede from the former huge figures. As unfavorable features become more widely known it is possible that estimates will become still more moderate.

The average California oil field differs from the average field in the east or Mid-Continent. In these latter provinces more or less distinct productive sands or limestones, in some cases hard and cemented, tend to lie as layers between thick series of barren limestone or shale. The average California field has few distinct sands, properly speaking. Instead, there are zones of rapidly alternating soft sand, silt, and clay layers from a few inches to a few feet in thickness; the aggregate may be half sand and half silt or clay. Except for occasional fingers of edge water, a zone hundreds or thousands of feet thick tends to be saturated with oil. Successive zones of this nature may be separated by thin intermediate waters which divide a productive horizon several thousand feet in thickness into parts.

Cores of Pliocene oil sand can oftimes be crumbled in the fingers, and some from the upper Miocene are only slightly indurated. This virtual absence of cementing allows oil to migrate easily through the soft layers, and, as the gas pressure declines, water moves in rapidly and drives the remaining oil up-structure with a minimum of loss. The supposed large percentage of "lost" oil does not apply to the average California field; the great bulk of the oil is ultimately recovered. As a result of sometimes thousands of feet of soft oil sands, yields exceeding 100,000 barrels per acre characterize nearly all of the major fields of Los Angeles Basin. Long Beach will exceed 500,000 barrels per acre, being more than four-fifths to that point now. The adjoining Ventura Basin is also in this class. Except for these two basins, however, no area in the state even remotely approaches a yield of 100,000 barrels per acre.

Kettleman Hills not only lies outside of the high-yield basins mentioned, but, as it produces from relatively old and compacted strata, has inferior reservoir conditions compared with some of the fields in its own basin. Offsetting the latter, but not the former feature, is the considerable thickness of its zones. Kettleman Hills falls in a classification between the high-yield California fields and some eastern pools. Much of the oil zone is noticeably indurated. The effective porosity is relatively low, there being a high percentage of fine-grained matter. This combination implies a comparatively low oil content, and particularly a low recovery. Such unfavorable features are now masked by the tremendous gas pressures of the flush period, but should become obvious when development has proceeded to the stage of interference. As early as April, 1934, a heavy decline in gas pressure had started, reaching 1200 pounds in one area, although the field was in its infancy. The significance of limiting factors is hidden by continuous new development in virgin territory.

To assign a recovery of 100,000 barrels per acre to Kettleman Hills, as must be done to reach past estimates of 1,500,000,000 barrels ultimate yield, is to assign this field the virtues of a domal field of Los Angeles Basin when it is indicated to have but a fraction of these. The highest recovery to date in any field in San Joaquin Valley has been but half of this. The next highest recovery has been less than a third of such a figure per acre. Both of these reservoirs have softer, younger sands than has Kettleman Hills.

Past high estimates for Kettleman Hills have seemingly been obtained by taking conditions in Los Angeles Basin, 200 miles distant, and applying them to this field instead of using data from its own basin, the best of which would give but half as high a figure. The attributes of record Pliocene fields have been assigned to a Miocene field in a distant basin where they are not relevant. In some cases the unreliable porosity method has been used, which usually gives figures from 200 to 500 percent higher than the actual. A drastic scaling down of early estimates is indicated.

Accuracy is not possible at this time, but by using analogies from the same instead of other basins, figures within reasonable limits may be obtained. On this basis, the total ultimate oil recoverable at Kettleman Hills with ten-acre spacing may be between 750,000,000 and 900,000,000 barrels. With one well to 20 acres the recovery may be less. The lower of these figures assigns Kettleman Hills a per acre

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recovery equal to the maximum so far known in San Joaquin Valley. The higher one gives the field a recovery twenty percent above this known maximum, allowing for the feature that its zones, though poorer than many, are of great thickness. The lower figure appears the more likely.

A Stabilizing Reserve

Kettleman Hills is a stabilizing asset. Unlike other great pools such as East Texas, the field is an outstanding example of voluntary cooperation for mutual protection, and will presumably be developed with care not to disrupt orderly markets. The handful of companies that control operations are among those most anxious not to disorganize markets. The pool will seemingly be used, when the townlot fields fail, as a governor to maintain state production at the required figure. This tendency is even now evident; the governor is producing at about a fifth of its drilled potential while various townlot areas are indicated to be running not far from capacity.

How much oil may be unrecovered at this field due to the extremely wide spacing of wells is unknown, but the amount is presumably large. Cutler (U. S. Bureau of Mines Bull. 228) has shown that with wide spacing the production per well is increased, but the recovery per acre is decreased. There is an optimum spacing for each field and set of conditions, determined by the cost of development compared to the value of the producible oil. If the ratio calculated by Cutler (p. 87) for Buena Vista Hills should apply to Kettleman Hills, the loss at the latter area due to 20-acre spacing may be high. Closer spacing does not seem advisable at present prices.

Summary of Conclusions

Considering increased demand, the proven future reserves of California are less than they were 20 years ago. They represent a normal amount for normal conditions. Increasing demand over the past 12 years has been taken care of by flash development in townlot fields which has given an impression of too much discovery when such is not the case.

Indications are that townlot production as a whole will decline more or less steadily from 1936 on, necessitating a rather rapid transfer of both cumulated and future increase in demand to spaced fields which have been partly protected from heavy drain. Such fields must be stepped up in seven years from 130,000,000 barrels a year to approximately 230,000,000 barrels, the latter figure representing an excessive load on those known at present.

Under these conditions new discovery at the same rate as in the recent past, or some 225,000,000 barrels a year, must occur in order to maintain a safe margin. California appears to have vast prospective reserves, but these can be used only as they may be converted into proven form. Heavy prospecting is expected to be resumed in the state by 1936, if plans for this are not already under way.

Part I of this article has discussed proven reserves. Part II, on prospective reserves, will appear in THE OIL WEEKLY *July 8, 1935.* —Editor.

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*Entire issue devoted to foreign reserves and development.

Contamination of Cores

BY DRILLING FLUID CAN BE ESTIMATED BY DISSOLVING SIMPLE CHEMICALS IN MUD

By WILLIAM L. HORNER, Research Engineer,
Forest Oil Corporation,
Bradford, Pennsylvania

MANY petroleum engineers have assumed that the penetration of drilling fluid into cored oil sand is a serious matter. It has long been supposed that circulating fluid washes away the major portion of the content of a cored formation. This would mean that any quantitative estimate of the amount of oil, gas and water left in the sand is subject to great error. Modern repressuring and water-flooding operations require that much reliance be placed in the results of tests on cores. This reliance has been justified by the accuracy of results obtained. All appraisal work and development programs of some companies engaged in water flooding and repressuring now are guided by the results of tests on cores. The results of several years of field experience show that coring losses are either sufficiently consistent or sufficiently small to permit production yields to be calculated from the results of certain laboratory tests and research.

Distillation tests on hundreds of core samples from many sands whose wells produce no water with the oil, show large amounts of water to be present in the core. This water content is of great concern to the producer. Production practice and profits are intimately related to the actual water content of the sand.[1] [2]. Research was undertaken by the writer to determine what portion of water found in a core could have been from the drilling fluid. Some of the results of this work might be of interest to other investigators.

Coring has increased in importance during the last few years and it is probable that most of our newly discovcered oil sands now are being core drilled. This is for the purpose of observing and logging the lithological and paleontological character of the formations and determining casing, liner and screen setting points. Much valuable information can be obtained from cores by laboratory testing. The samples are of lithological value but also should be tested to yield information regarding the character of the fluids in the pores.

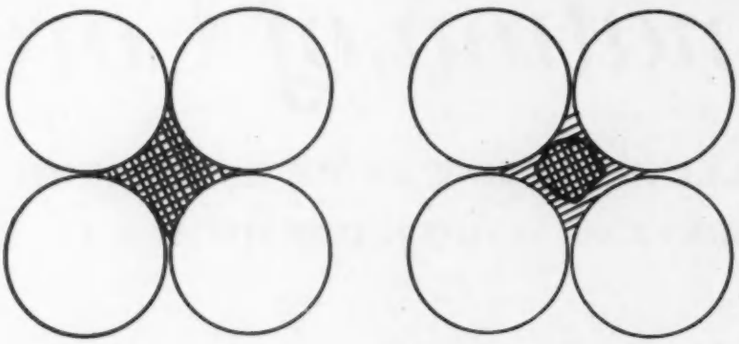
Personal judgment in the field is of poor value to the producer who is interested in the possible productivity of a cored formation. In a rotary core recently taken in a Mid-Continent field the writer took the core from the driller and observation indicated that the top seven feet of the sand was apparently a barren zone. Subsequent testing showed that this portion of the sand was very rich and well worth producing. It is quite possible that this section of sand, being very permeable, was the first to lose its oil and gas as the tools were withdrawn from the hole and when the last joint of drill pipe was unscrewed the pressure in the rock could have been entirely released. Because no bubbling or "frying" of oil was noticed in the core when it was removed from the core barrel, this portion of the sand was incorrectly supposed to be barren. In this manner, it is quite probable that horizons have been overlooked that should have deserved production tests. No coring method will permit positive identification of these horizons as being oil bearing but laboratory tests can show what is in the rock recovered from the well.

Research Results

The results of recent research by the writer have shown that typical amounts of water contamination approximate five percent of the pore space of the rock. The penetration is greater for gas filled sands than for oil saturated sands. The penetration is obviously less in sands where the formation pressures approach the hydrostatic pressure of the column of drilling fluid in the hole. With mud-laden fluids the penetration was found to be uniform throughout the length of the core barrel and that samples removed from the bit or trimmer shoe were contaminated just as much as those samples that lay in the core barrel exposed to fluid action for some time after being cut out of the formation. Fairly reliable methods were used to obtain these results and if the data procured can be accepted as proof of the presence of water in oil sands it is obvious that we must revise some of our concepts of oil reservoir behavior, which have been based on the occurrence of oil in water free reservoirs. Our present ideas concerning fluid movements and underground reserves should be altered to compensate for the indigenous water.

A cross section (Figure 1) of the pores of a typical oil sand should show the grains coated with

[1]Lindtrop, Norbert T., and Nikolaeff, V. M.—"Oil and Water Content of Oil Sands, Grozny, Russia"—A.A.P.G. Bulletin, Vol. 13, No. 7, Page 811, July, 1929.
[2]Horner, William L.—Paper on Oil Mining Reserves—Oil and Gas Journal, February 21, 1935.



ASSUMING NO WATER

THE PROBABLE OIL-WATER SITUATION IN A SATURATED PORE

FIGURE 1

Cross section of ideal saturated oil sand pores. The oil portion is cross-etched.

water and the oil held within the water lined pores in a pendular[3] state, not in direct content with the rock. In the case of a well producing only oil, the movement of oil through these pores would be a condition of flow with nearly perfect slippage of the oil past the water. In the estimation of reserves and percentage of recovery serious errors are obvious if the figures used are based on the complete occupancy of the pore space by oil.

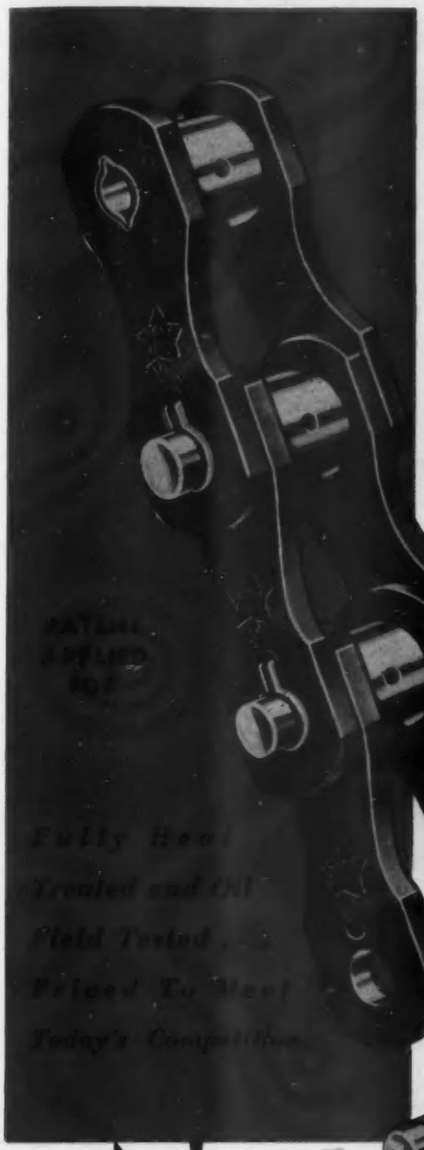
In the routine examination of cores for oil content,[4] water has been found present in every one of over 1500 samples. A study was undertaken to determine how much of this water was contamination from drilling fluid. Most of these samples were taken by cable tools in the Bradford field, but several hundred samples were from rotary wells in Texas, Oklahoma, Illinois, Kentucky and other states. The distillation method for the determination of the fluid content of oil sands removed the water of crystallization, which must be recognized as a part of the rock minerals. A one hundred ml. sample of a Pennsylvania oil sand was found to yield eight ml. of oil and ten ml. of water. In this particular volume and kind of rock, one ml. of water is released from crystallization so it might be assumed that only nine ml. of water were distilled from the pores of the rock. By adding acetone to the drilling fluid on two occasions and arsenic acid on others, and by subsequent chemical analysis of the cored samples, it was concluded that about ten percent of the recovered water was contamination from drilling depending on the conditions. This means that this particular sample of oil sandstone contained in its pores eight ml. of water that was indigenous to the rock. This one ml. of contamination may seem large but it is significant that it is much less than many engineers might have suspected. A chemical that is to be used in such a test should not be selectively absorbed on the sand nor excessively soluble in the oil. The chemical could not, therefore, be a dye because the coloring matter would not behave as the water would and more of the dye would remain on the core after contact than would be represented by the water absorbed in drilling. Likewise a reaction between the detector compound and the high calcium content of the natural water in the rock could precipitate the detector and destroy the value of the test. In order that the tests might be performed often the cost of the chemical should be low. Normal or iso-propyl alcohol seems to be the best chemical that lends itself to this work. The alcohol can be mixed with the drilling water and estimated in the water recovered by distillation in the routine determination of oil content. The vapor pressure of commercial iso-propanol is low (760 mm at 80°C.) enough to prevent large evaporation losses. The alcohol can be estimated in water recovered by the retort tests and comparison with the analysis of the "doctored" drilling water shows the percentage of drilling water in the core sample. For example if analysis of the water contained in a core sample showed five percent alcohol and the drilling water contained 50 percent alcohol it would appear that ten percent of the core water was contamination from drilling fluid.

This contamination can not be estimated from the salt content of the core[5] unless special precautions are employed to prevent the salt from being carried to the surface of the drying rock by capillarity and surface evaporation. In the salt content method of estimating the amount of water carried into the core by drilling, a sample of the core is leached by hot water until the salt is dissolved. The extracted salt is measured by chemical analysis and can be compared to the quantity of salt which would be contained in the amount of salt water supposed to have been in the pores underground. It can be shown that much of the salt water is expelled from high-pressure cores due to expansion of the dissolved gas and by subsequent gravity drainage after their removal to the surface. It is true, likewise, that some salts are not soluble in the saturated formation brines, but can be removed by extraction much to the confusion of the analyst. The results of these salt tests are variable, but some investigators have suggested that over three-fourths of the salt water in Woodbine cores had been washed away.

In an effort to determine the effect of "soaking"

[Continued on page 71]

[3]Versluys, Jan—"Factors Involved in Segregation of Oil and Gas from Subterranean Water"—Bull. A.A.P.G.—Vol. 16, No. 9, Page 924.
[4]Horner, Wm. L.—"Determination of Oil Content of Sands"—Petroleum Engineer, April, 1935.
[5]Fash, R. H.—"Analyses of Woodbine Cores for Presence of Salt Water"—A.A.P.G. Bulletin, Vol. 18, No. 2, Page 265.



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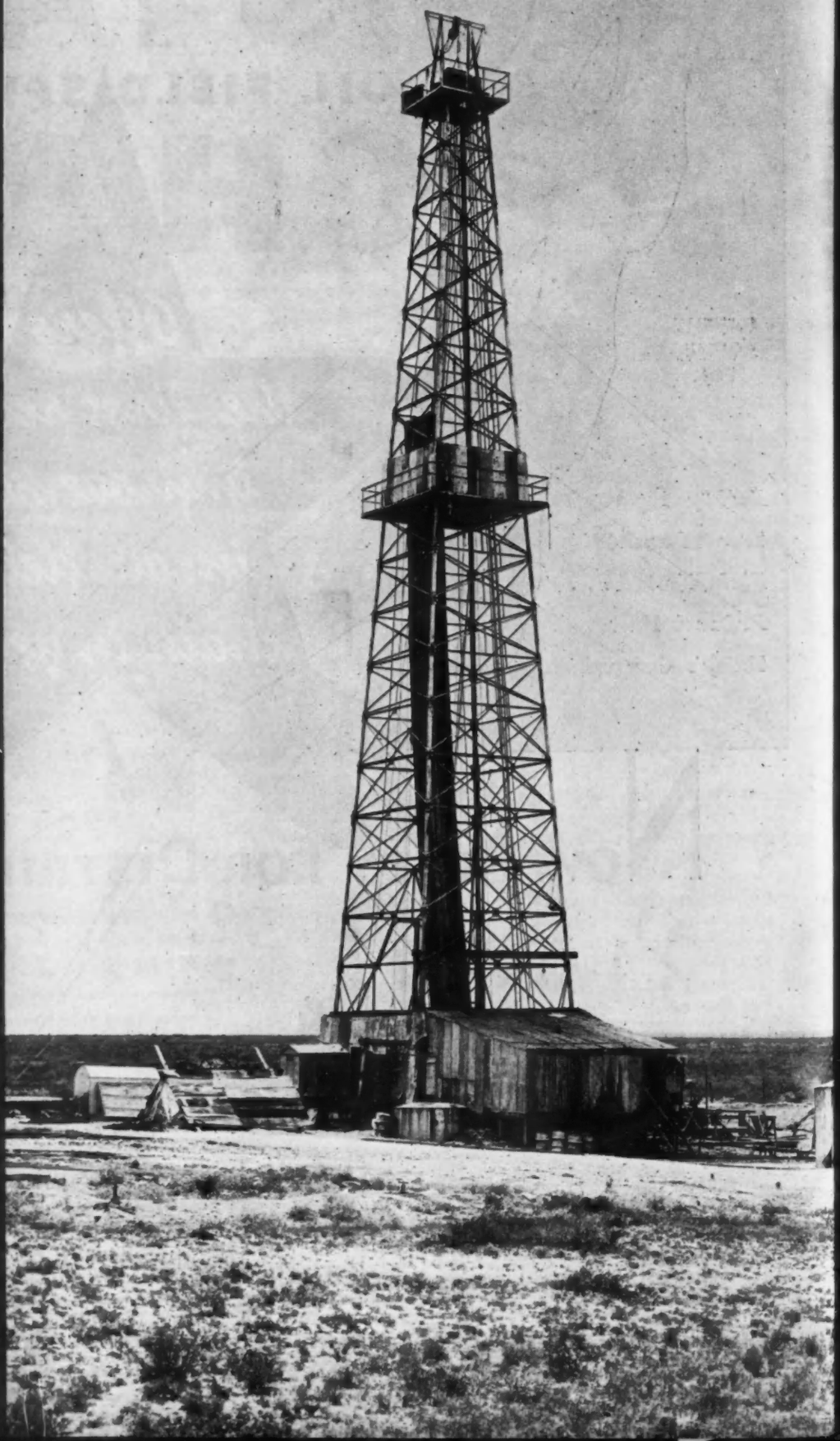


MEN, METHODS AND MACHINERY CONTRIBUTE TO DRILLING OF THE

World's Deepest Test

By B. G. MARTIN, Geologist,
Gulf Production Company, Midland, Texas
and
BRAD MILLS, Associate Editor, The Oil Weekly

THIS ARTICLE, which is the first official release of the complete drilling history of Gulf Production Company's McElroy 103, the world's first 12,000-foot test, was made possible through the cooperation of Gulf Production Company's executives and men who worked on the well. THE OIL WEEKLY is indebted to these men, and wishes to express its sincere appreciation for their assistance, particularly to B. G. Martin, geologist, who was assigned the task of keeping all detailed records of formations and drilling equipment performance, and who assisted in the preparation of the manuscript.

THE new world's depth record established by Gulf Production Company with J. T. McElroy 103 was the result of a well-planned and carefully supervised drilling program that recognized the advantages and possibilities of efficient drilling crews, modern methods and machinery. Attainment of a depth of 12,786 feet was accompanied by very few sensational developments, and the company preferred to treat the well as a routine operation, even after a new record had been made. An analysis of the large number of very complete drilling records kept, reveals many reasons for consistent progress made below the maximum depths of a few years ago although an unusually hard formation was encountered. Performance data of the type obtained by the company engineers are a most valuable contribution to deep drilling technique and fundamental knowledge.

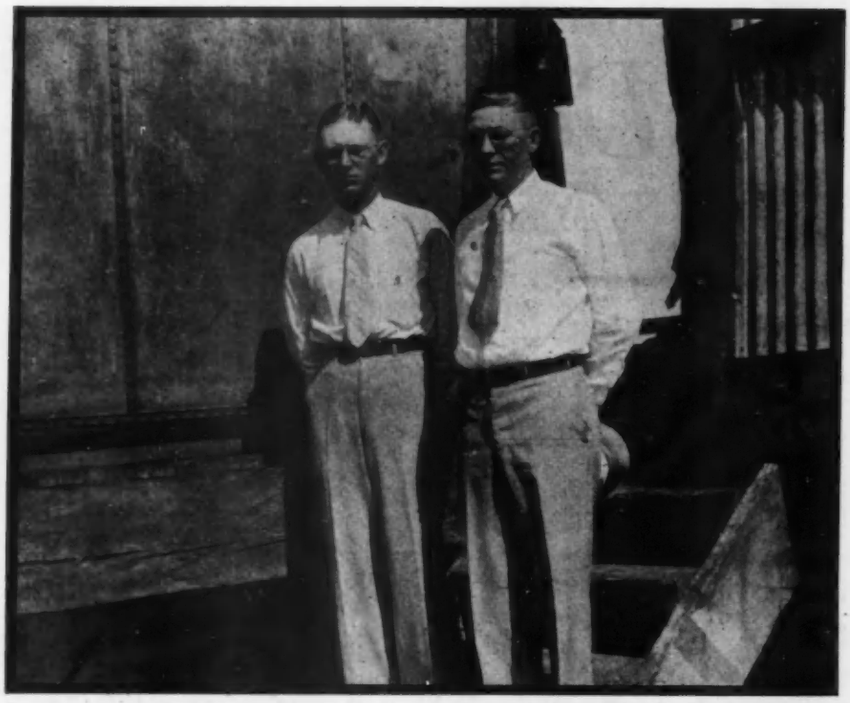
The loyalty and intelligence of the drilling crews, careful selection and constant inspection of drilling equipment, considerate supervision, and cooperation between the different departments were factors that made a new record possible. Drilling McElroy 103 to a depth of 1409 feet greater than ever attained before was in many respects a normal undertaking, and the attainment of such a great depth indicates that many failures in the past might have been caused by mental hazards. The interest shown by the crews and the perfect safety record stand out when it is considered that extremely hard formations were encountered below 10,000 feet, and that it was necessary to handle the drill pipe in and out at very frequent intervals.

The well developed its full share of problems, and the company had no precedent to be guided by in many instances. Such tasks as running a record string of casing, obtaining cores in extremely hard formations below 10,000 feet, and catching samples from the mud line were completed successfully to establish entirely new practices.

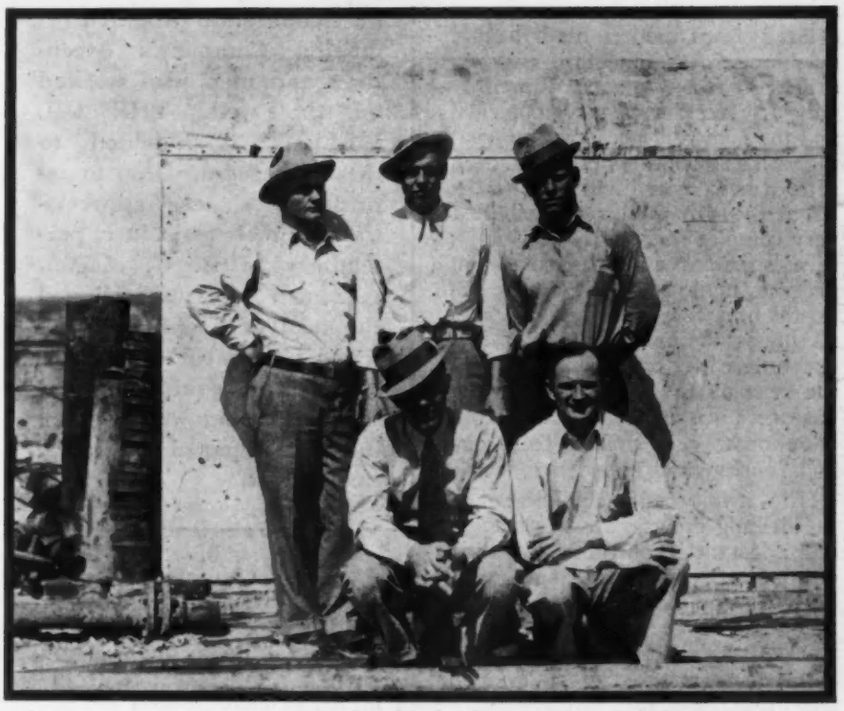
Another interesting feature of the drilling progress was that the entire year 1934 was spent in drilling approximately 2400 feet, between 8600 feet and 11,000 feet. It is even more interesting to note that the greater part of this time was spent in drilling the chert section below 10,167 feet. The occurrence of very hard formations at great depths caused a heavy loss of time through frequent coming out and going into the hole with the drill pipe. Some of the formations were as hard as ordinary steel, and often bit changes were necessary. It speaks well of both the drilling crews and the cutting equipment that eventually the test was successfully drilled to 12,786 feet.

J. T. McElroy 103 is considered a very straight hole, with a maximum deviation of about three degrees. A 19¾-inch hole was drilled to 752 feet, where a deviation test revealed a crooked hole. The hole was plugged back to 192 feet and a new hole drilled from that depth. No directional tests were made below 10,000 feet, because when attempting a test, the ink would syphon through and record on the chart before the instrument reached bottom, while if the orifice was made small enough to prevent the original trouble, the ink would not syphon through at all. The hole was never off vertical much of the time above 3800 feet. At 4300 feet, the deviation from vertical was about three degrees, but it was less than one degree at 4600 feet. The deviation was under one degree at 6500 feet, and from that depth to

Men: Who drilled McElroy 103, are shown on this and subseqent pages



B. G. Martin, left, and Walter J. Walsh, geologist and drilling foreman respectively.



Standing, left to right:
George McElveen, driller
R. W. Knight, derrickman
C. E. Mitchell, helper

Kneeling:
E. D. Brockett, helper
C. J. Bailey, fireman

400 feet gradually increased to three degrees. Continuous coring was started, and at 8100 feet the deviation was less than one degree. From 8100 to 9600 feet the deviation was less than one degree from vertical. From 9600 feet to bottom, drilling indicated a straight hole.

While the well has been plugged back to test upper showings, the objective formation was reached. Failure to develop production is no reflection on the wisdom of the original drilling plan. The well cut the greatest thickness of the earth's surface ever penetrated, and stands as one of the outstanding achievements of the industry in recent years.

Gulf Production Company has learned much from drilling McElroy 103, a well that passed through an almost unprecedented thickness of very hard forma-

A TRIBUTE TO THE ACHIEVEMENT OF MEN
AND THE DEVELOPMENT OF EQUIPMENT
FOR DEEP DRILLING

A NEW World's Record

12,786
FEET

ALMOST 2½ MILES -

These men did it !

THESE MEN ARE CO-HOLDERS OF THE NEW WORLD'S RECORD FOR DEEP DRILLING

Gulf Production Co.'s No. 103 McElroy, Upton County, Texas

The drilling of this well to a super-depth record of 12,786 feet below the earth's surface is a tribute to the knowledge, resourcefulness and painstaking care *of Company Officials and every man on the rig.*

Tools and equipment used, especially HUGHES TOOLS, were of the same design, material and workmanship as those giving less spectacular service throughout the oil fields of the world.

We are naturally proud that Hughes Tools played a part in attaining this great depth, but claim little credit, as credit should fall where due — to the skill and experience of the men who have broken all existing records for depth.

It was the Industry's good fortune that men of real ability were in charge and were assigned to drilling this well. Hughes Tool Company joins countless others in congratulating the men responsible for this World's Record.

STRAIGHT DOWN

NAMES OF MEN:

Reading from left to right—

First row:
G. Harper, Derrick Man
H. Moore, Driller
A. G. Dement, Floor Man
V. F. Tilley, Floor Man
F. Hajek, Derrick Man
H. D. Holliman, Floor Man
R. C. Randolph, Driller
W. J. Walsh, Drilling Supt.
R. Knox, Fireman
Archie Martin McElveen, Mascot

Second row:
G. G. Moan, Floor Man
R. L. Knight, Floor Man
J. C. Neal, Fireman
T. E. Patrick, Derrick Man
C. D. Aycock, Driller
E. D. Brockett, Floor Man
L. P. Hart, Floor Man
O. J. Bailey, Fireman
R. W. Knight, Derrick Man
G. McElveen, Driller
B. G. Martin, Geologist

Others not in picture—O. W. Evens, Fireman; J. W. Fault, Floor Man. Transferred and promoted to drillers: H. H. Head, J. W. McCabe and M. C. Chamblee.

HUGHES EQUIPMENT WAS USED . . AS FOLLOWS

Rock Bits

5—Sets 19¾" Hughes "Acme" Cones
20—Sets 13¾" Hughes "Acme" Cones
8—13¾" Hughes "Pilot" Bits
253—9⅞" Hughes 3-Cone Roller Bearing Bits
1—9⅞" Hughes 2-Cone Roller Bearing Bit
7—9⅞" Hughes "Acme" Cones
1—6¼" Hughes 3-Cone Roller Bearing Bit
7—6-11/16" Hughes "Acme" Cones
267—6-11/16" Hughes 3-Cone Roller Bearing Bits

Core Bits

Hughes Core Bits were used exclusively in sampling the various formations down to the greatest depths ever penetrated by man. Exceptional performance of Hughes Core Bits at the most extreme depths is exemplified by their continuous use.

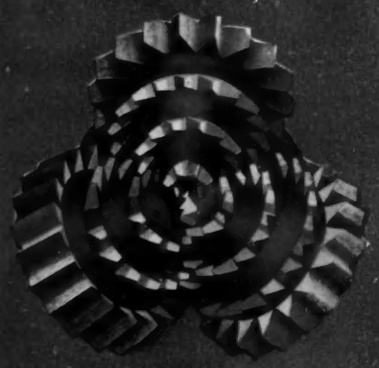
3—8⅛" Hard Formation Cutter-Heads
2—7⅞" Soft Formation Cutter-Heads
171—7⅞" Hard Formation Cutter-Heads
45—6-11/16" Hard Formation Cutter-Heads
28—6¼" Hard Formation Cutter-Heads
1—6" Hard Formation Cutter-Head

Tool Joints

The Log shows that Hughes 4½" A.P.I. Full-Hole Tool Joints were used in drilling the well from 4,017 feet to 10,630 feet, total footage of 6,613 feet.

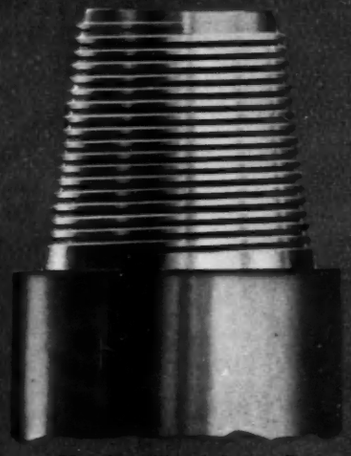
Reamers

Hughes 13¾" Double Stage 3-Point Forged Reamer was continuously used from a depth of 762 feet to 4017 feet. Hughes 9⅞" Double Stage Forged Reamer was used from 4017 feet to 5594 feet . . . again at 5658 feet . . . again at 5969 feet to 6463 feet . . . again at 6666 feet to 6911 feet . . . again at 8670 feet to 9760 feet . . . again in service at 10,177 feet to 10,484 feet, and again at 10,500 feet to 10,581 feet. Further reaming was resumed at 10,630 feet, using exclusively Hughes 6-11/16" Double Stage Reamer until drilling was discontinued at 12,786 feet.



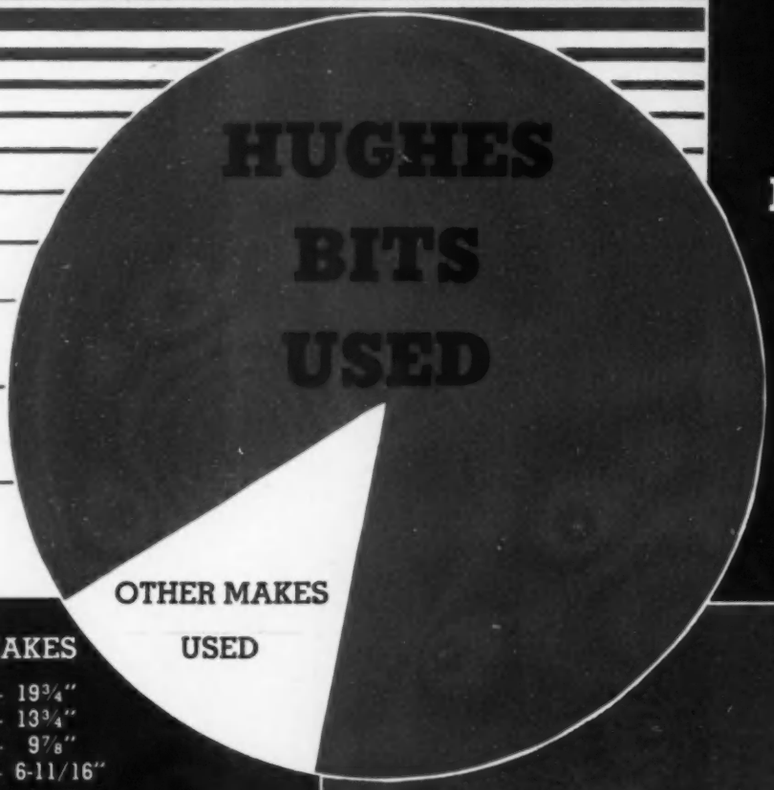
Hughes 3-Cone Rock Bit

Hughes Hard Formation Core Bit Cutter Head



Hughes Tool Joint Pin

Hughes Double-Stage 3-Point Forged Reamer



HUGHES ROCK BITS

5 — 19¾"
28 — 13¾"
261 — 9⅞"
274 — 6-11/16"
1 — 6¼"

569 — Total

HUGHES CORE BITS

3 — 8⅛"
173 — 7⅞"
45 — 6-11/16"
28 — 6¼"
1 — 6"

250 — Total

ROCK BITS	569
CORE BITS	250
TOTAL HUGHES BITS	819

OTHER MAKES

5 — 19¾"
37 — 13¾"
51 — 9⅞"
35 — 6-11/16"

128 — Total

ALL HOLE CORED WITH HUGHES CORE BITS

HUGHES CORE BITS

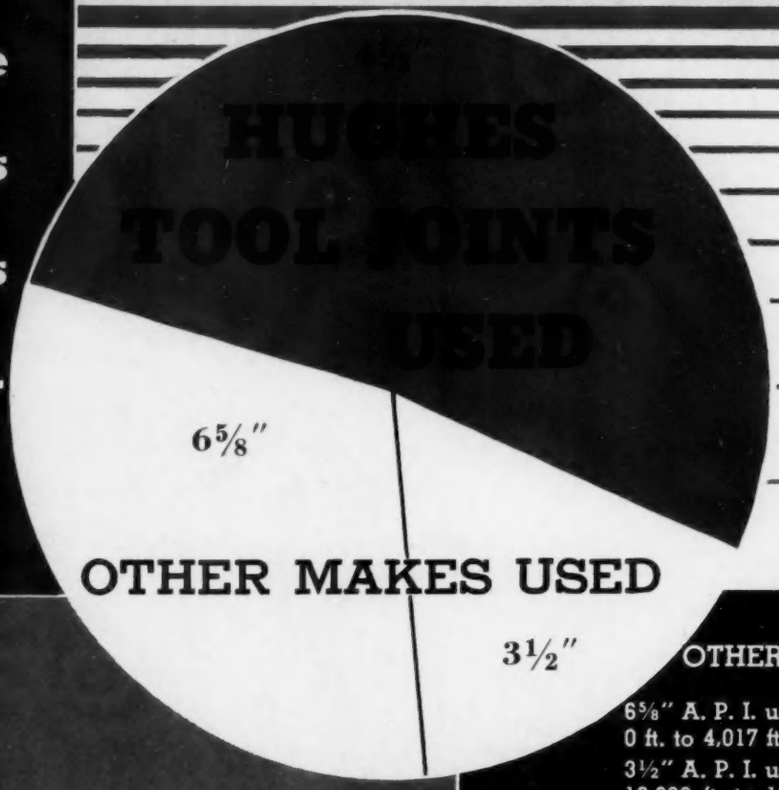
3–8⅛"
173–7⅞"
74–6"-6¼-"6¹¹⁄₁₆"

250 TOTAL CORE BITS

OTHER MAKES

None

Proportion of Hole drilled with Hughes $4\frac{1}{2}$" A.P.I. Tool Joints *(Full Hole)* **4,017 ft. to 10,630 ft.**



OTHER MAKES

6⅝" A. P. I. used to drill — 0 ft. to 4,017 ft.

3½" A. P. I. used to drill — 10,630 ft. to 12,786 ft.

HUGHES REAMERS

13¾" Hughes Reamer used to ream 3,255 ft. of hole.

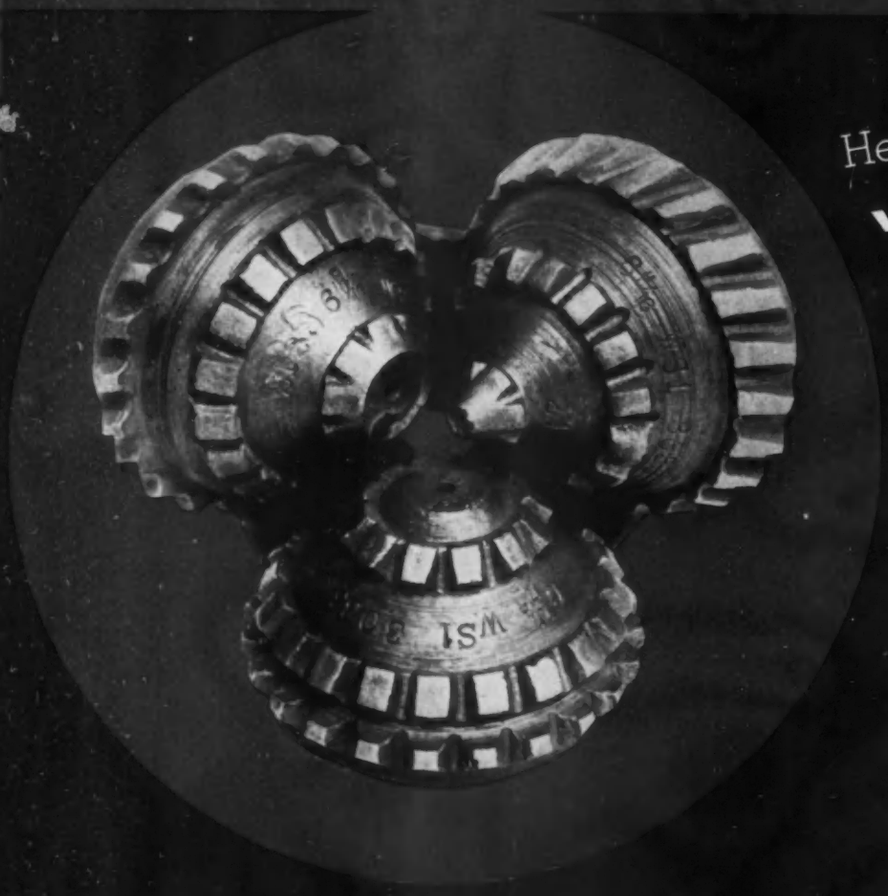
9⅞" Hughes Reamer used to ream 3,794 ft. of hole.

6-11/16" Hughes Reamer used exclusively to ream 1,961 ft. of hole.

OTHER MAKES

13¾" Reamer used to ream 2,589 ft. of hole.

9⅞" Reamer used to ream 3,930 ft. of hole.



Here is the

"Hughes 3-Cone Roller Bearing Rock Bit"

that broke the World's Depth Record. This rock bit was on bottom below 11,377 feet, the previous World's Record

The

Hughes Hard-Formation Core Bit

broke all records for depth coring when a successful core was recovered at 12,786 feet—literally bringing the "bottom of the hole" to the derrick floor.

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TEXAS

EXPORT OFFICE:
30 ROCKEFELLER PLAZA
NEW YORK CITY

Standing, left to right:
R. C. Randolph, driller
H. D. Holliman, helper
V. F. Tilley, helper

Front row:
Raymond Knox, fireman
T. E. Patrick, derrickman

Standing, left to right:
J. M. Kenderdine, helper
R. L. Knight, helper
J. C. Neal, fireman and extra driller

Lower row:
J. O. Franks, derrickman
C. D. Aycocks, driller

tions, and there are many reasons to believe that a much greater depth can be attained.

Drilling depths seem limited only by the strength of the drill pipe threads. It is believed, however, that the drill pipe of today, plus a few joints of particularly heavier and stiffer pipe on bottom, will drill a much greater hole than has ever been accomplished.

Surface equipment has a better chance to perform while drilling at excessive depths than drill pipe and bits. It is believed that the best surface equipment now in use would function satisfactorily at depths ranging from 14,000 to 15,000 feet.

The test was drilled with company-owned rotary tools, and was spudded March 21, 1933. Drilling was discontinued May 25, 1935, and except for one major shut-down, from November 22, 1934, to January 2, 1935, operations were carried on continuously. Above 6300 feet operations were conducted seven days per week with three crews, but below that depth four crews daily, working six days per week, were employed.

Not a single lost-time accident occurred during the entire history of the well. This is considered a remarkable record when the number of round trips with the drill pipe are considered. One man strained a muscle during usual drilling operations, but his injury was

considered a recurrence of an old one and cannot be classed an accident. The drilling crews are very proud of the safety record, and used as their goal the completion of the well without a lost-time accident. Frequent detailed inspections replaced the haphazard examinations of a few years ago.

The human element played an important part in the success of the undertaking. The loyalty and intelligence of the drilling crews resulted in continuous progress during the most trying periods, and every man became keenly interested in the outcome. The labor turnover was almost zero. The drillers that started on the well remained on duty until drilling was suspended at 12,786 feet. The original crews included only three drillers, but a fourth man was added when the hours were shortened. Members of the crews became familiar with the well and only a small amount of time was lost during changes of shifts.

Valuable Data Compiled

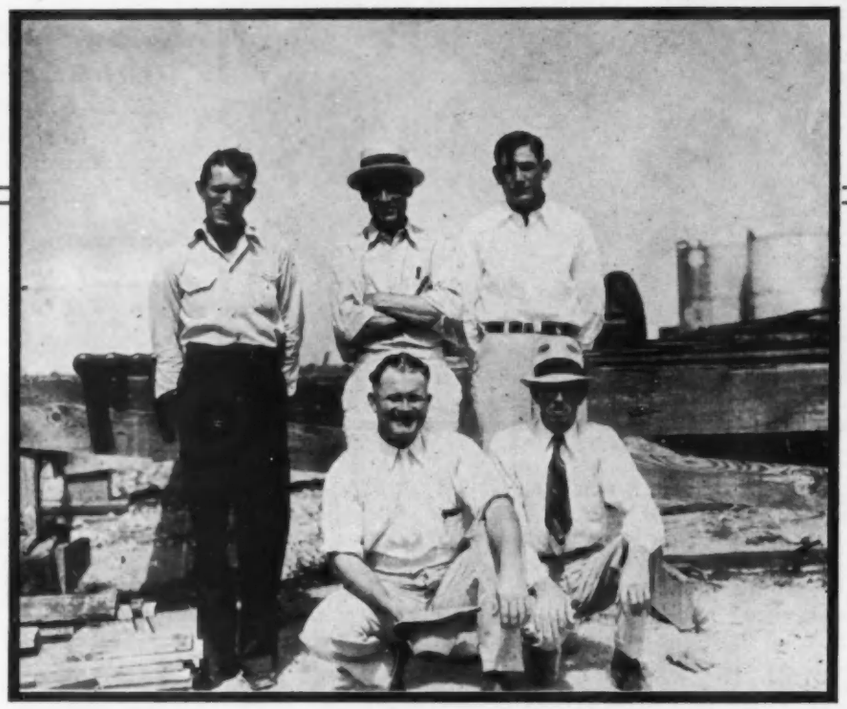
The well was drilled during a lull in company operations in West Texas, making it possible to give almost unlimited attention to the compilation of technical data as drilling progressed. Company records include full data on mud materials used, fishing jobs, major rig replacements, boiler maintenance, water used and cost, oil and greases used, drill pipe service, brake band record, drilling line service data, complete bit performance records, casing records, derrick deflection with load, and several lesser classifications. The company feels it has profited by the extra trouble and expense involved in keeping detailed records of all kinds.

The log of the well is perhaps the most complete ever kept while drilling a deep test. It is in reality a combination petroleum engineering and geological history of the well, and was designed to show as much data as possible in graphic form, with the formation and depth as the guiding factor. The information compiled in this log not only shows in detail the nature of formations encountered, but includes a list of all equipment used; shutdowns; repairs and changes made in machinery and the reasons for such; the water, both for boiler and drilling purposes; fuel, kind and amount; weight of drilling mud, chemicals and other materials used; fishing jobs, time taken out and cause of job; deviation tests, showing depths taken and results; core record with depth, footage cored and amount recovered; bit record with kind, size, number, footage of each; rotating time and nature of formation penetrated; oil, gas and water horizons; casing record; cement used; and a record of grease and oil used on equipment.

The finished log is more than 28 feet long. The bit and core head record are plotted to scale against the formation, and it is easy to follow bit performance in the various strata. The log gives as near a complete history of the well as was possible to keep.

New Practices Employed

Several unique practices were developed to meet conditions. The company perfected its own method of catching cuttings or samples from the mud line. A four-inch by six-inch swage nipple holding about 1½ gallons was screwed into the mud return line at a point near the blowout preventer. The large end of the swage nipple hung downward, and by closing the large end it acted as a tapered bull plug. The opening into the bull plug was regulated to cause the plug to fill with cuttings during the drilling of



Standing, left to right: A. G. Dement, helper; H. H. Moore, driller; A. G. Harper, derrickman. Front row: C. W. Evans, fireman and J. M. Faulk, helper.

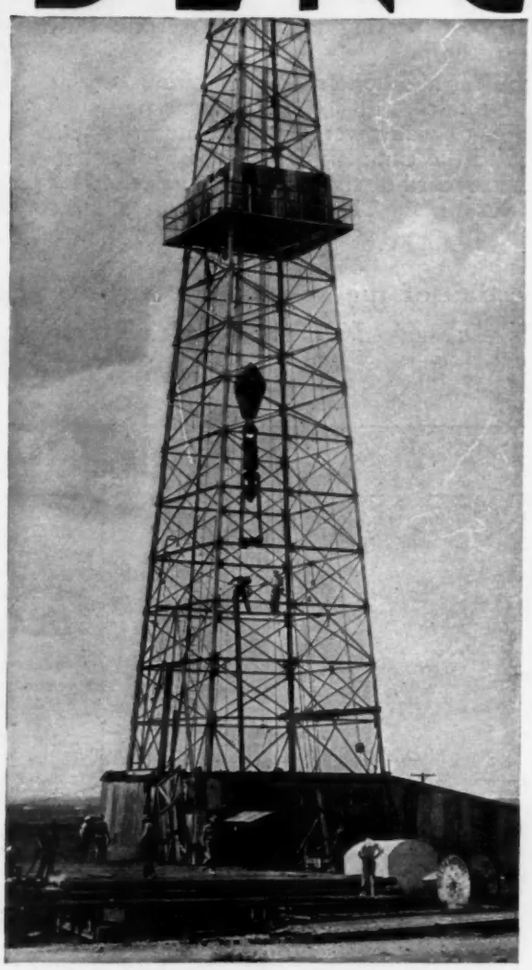
Their CONFIDENCE *was Rewarded*

IN drilling the McElroy 103 to the tremendous depth of 12,786 feet, and thereby establishing a world's record for deep drilling, the Gulf Production Company has given the oil world an outstanding example of planned efficiency.

Here was no place for experimentation with untried, unproved methods or equipment. A big investment was at stake and every operation demanded the most careful planning and proper execution.

In the successful accomplishment of their goal, the Operating Division, Engineering Staff and Drilling Crews of the Gulf Production Company have made outstanding contributions to the science of deep drilling and geological knowledge of the Texas Permian Basin.

We extend our hearty congratulations on this noteworthy achievement.



Parkersburg 136-foot, heavy duty drilling derrick on Gulf Production Company's McElroy 103

The Parkersburg Hydromatic Brake used on the Drawworks of McElroy 103, proved to be a real investment in safety and economy. Its smooth, positive operation absorbed much of the shock that would otherwise have been transmitted to the drilling equipment and provided protection against runaway loads.

THE PARKERSBURG RIG AND REEL CO.

TRADE MARK REG.

THE PARKERSBURG RIG & REEL CO.

Executive Offices and Main Plant

PARKERSBURG, WEST VIRGINIA

NEW YORK - TULSA - DALLAS - HOUSTON

389-A

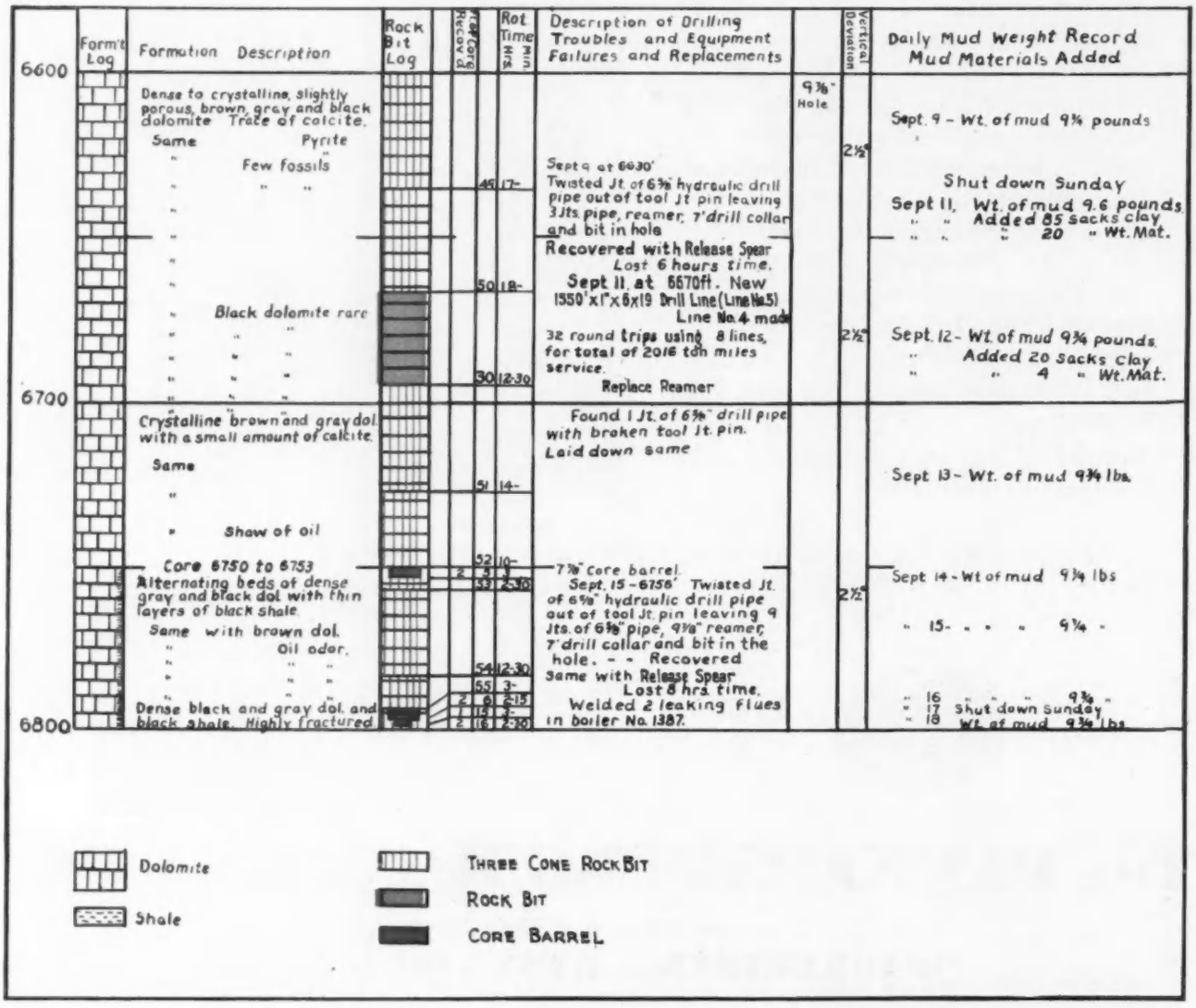
Methods:

10 feet. The mud or water returns passed on to the pit in the normal manner, but an occasional cutting would drop into the bull plug as drilling progressed. A valve was placed between the blowout preventer and the bull plug. It required closing the valve for only a short time while unscrewing the bull plug and emptying the samples. During this period the mud returns were passing through a second flow line leading to the pits.

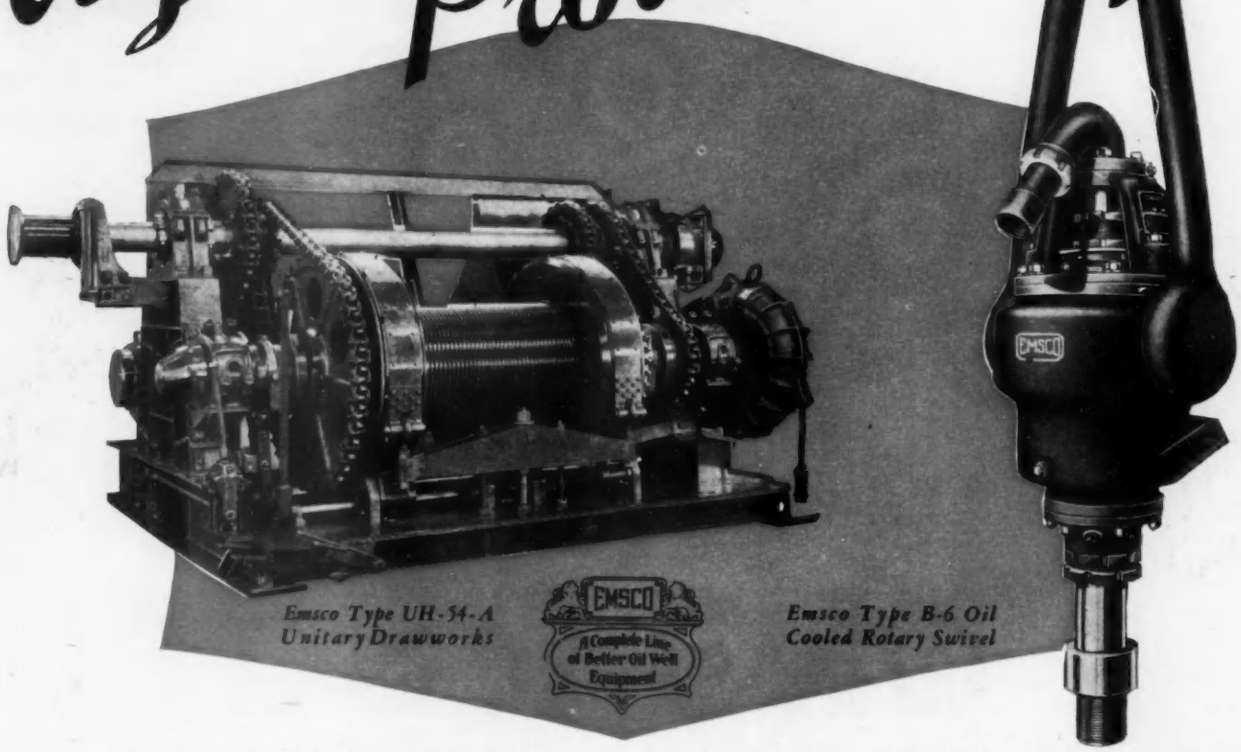
Water used for the boilers and for circulation as drilling fluid totaled 21,836,000 gallons. As much as 1200 barrels of water were used during a 24-hour period. Due to the complex nature of handling gas in the field, no record of the amount of gas used for boiler fuel was kept. The company sends a large part of the gas produced in the McElroy field to a treating plant operated by another company, and purchases a part of the treated gas for use on Gulf Production Company leases.

The ton-mile service of drilling lines was increased by using extra long lines instead of the regular lengths. When a bad place was found it was simply cut off and the line pulled up by the amount lost. The line was damaged most frequently where it spooled on the drum, and it was possible to cut the damaged end and save the greater part of the line. By cutting off about two feet of the line every round trip, spooling took place in a different position and the line did not show its former tendency to mash where it spooled on the drum. A total of 25 drilling

A small section of the combination engineering and geological log kept on Gulf Production Company's McElroy 103, showing the method of keeping this information. The complete log is over 28 feet long.


6600
6700
6800
Form'n Log
Formation Description
Rock Bit Log
Rec'd
Feet Cored
Rot. Time Hrs. Min.
Description of Drilling Troubles and Equipment Failures and Replacements
Vertical Deviation
Daily Mud Weight Record Mud Materials Added
Dense to crystalline, slightly porous, brown, gray and black dolomite Trace of calcite.
Same Pyrite
" Few fossils
" " "
Black dolomite rare
" " "
" " "
" " "
" " "
Crystalline brown and gray dol. with a small amount of calcite.
Same
"
" Show of oil
Core 6750 to 6753
Alternating beds of dense gray and black dol. with thin layers of black shale.
Same with brown dol.
" Oil odor.
" " "
" " "
" " "
Dense black and gray dol. and black shale. Highly fractured
9 7/8" Hole
Sept 9 at 6630'
Twisted Jt. of 6 5/8" hydraulic drill pipe out of tool Jt. pin leaving 3 Jts. pipe, reamer, 7' drill collar and bit in hole
Recovered with Release Spear
Lost 6 hours time.
Sept 11 at 6670ft. New 1550' x 1" x 6x19 Drill Line (Line No.5)
Line No. 4 made
32 round trips using 8 lines, for total of 2016 ton miles service.
Replace Reamer
Found 1 Jt. of 6 5/8" drill pipe with broken tool Jt. pin.
Laid down same
7 7/8" Core barrel
Sept. 15 - 6756' Twisted Jt. of 6 5/8" hydraulic drill pipe out of tool Jt. pin leaving 9 Jts. of 6 5/8" pipe, 9 7/8" reamer, 7' drill collar and bit in the hole. - - Recovered
Same with Release Spear
Lost 8 hrs. time.
Welded 2 leaking flues in boiler No. 1387.
2 1/2°
Sept. 9 - Wt. of mud 9 1/4 pounds
Shut down Sunday
Sept 11, Wt. of mud 9.6 pounds
" " Added 85 sacks clay
" " " 20 " Wt. Mat.
Sept. 12 - Wt. of mud 9 3/4 pounds
" Added 20 sacks clay
" " 4 " Wt. Mat.
Sept 13 - Wt. of mud 9 3/4 lbs.
Sept 14 - Wt of mud 9 3/4 lbs
" 15 - " " " 9 3/4 "
" 16 " " " 9 3/4 "
" 17 Shut down Sunday
" 18 Wt. of mud 9 3/4 lbs
Dolomite
Shale
Three Cone Rock Bit
Rock Bit
Core Barrel

EMSCO
DEEP WELL
DRILLING EQUIPMENT
Again Proves itself!



Emsco Type UH-54-A Unitary Drawworks

Emsco Type B-6 Oil Cooled Rotary Swivel

Again on the Gulf McElroy well, Emsco equipment clearly proves its ability to drill efficiently to any required depth.

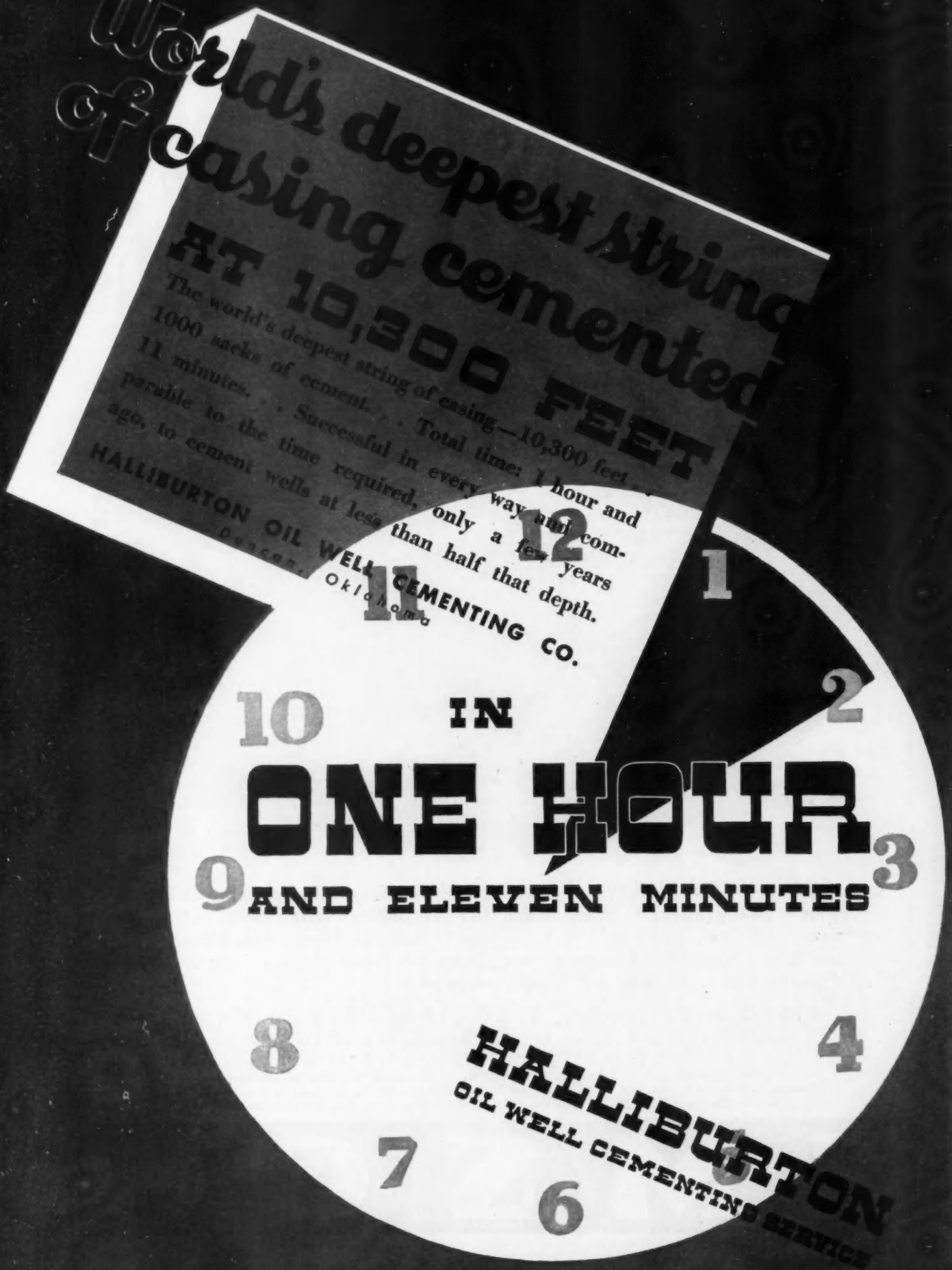
An Emsco type HRB Drawworks was used on the Gulf McElroy to drill approximately 10,000 feet, at which depth the Emsco UH-54-A Unitary Drawworks was installed to drill to the present world record depth. The Emsco B-6 Swivel also was used in drilling this well.

EMSCO DERRICK & EQUIPMENT COMPANY

6701-7101 So. Alameda St., Los Angeles, California, U. S. A.
Plants: Houston—Dallas—Los Angeles

All Emsco Machinery and D+B Products Sold Exclusively in Mid-Continent Fields By The Continental Supply Company. All Emsco Derricks and Derrick Equipment Sold Exclusively in the Mid-Continent By Emsco Derrick & Equipment Co., Continental Bldg., Dallas, Texas. Export Office: Continental Emsco Co., 30 Rockefeller Bldg., N. Y.

EMSCO


World's deepest string of casing cemented
AT 10,300 FEET
The world's deepest string of casing—10,300 feet
1000 sacks of cement . . . Total time: 1 hour and
11 minutes. . . . Successful in every way and com-
parable to the time required, only a few years
ago, to cement wells at less than half that depth.
HALLIBURTON OIL WELL CEMENTING CO.
Duncan, Oklahoma
IN
ONE HOUR
AND ELEVEN MINUTES
HALLIBURTON
OIL WELL CEMENTING SERVICE

in the world's deepest well
HALLIBURTON
FLOAT
COLLAR
7" A.P.I.
HALLIBURTON
CEMENT
GUIDE
SHOE
7" A.P.I.
PERFECT PERFORMANCE
HOWCO
FLOAT COLLAR AND GUIDE SHOE

Drilling Line Record—J. T. McElroy 103

Line No.	Size	No. Lines Used	Number R. T.	DATE		DEPTH		Total No. Feet	Ton Miles
				On	Off	On	Off		
1	1350'x1x6x19	4	101	3-21-33	5-14	0	2066	2066	.....
1	1350'x1x6x19	6	31	5-15-33	6- 2	2066	3174	1108	.....
			132					3174	5676
2	1550'x1x6x19	6	75	6- 2-33	7-17	3174	4855	1681	3380
3	1550'x1x6x19	6	60	7-17-33	8-20	4855	5926	1071	2910
4	1550'x1x6x19	6	32	8-20-33	9-11	5926	6630	704	2016
5	1550'x1x6x19	8	34	9-11-33	9-30	6630	6969	339	2414
6	1550'x1x6x19	8	34	9-30-33	10-24	6969	7421	452	2703
7	1550'x1x6x19	8	23	10-24-33	11- 9	7421	7750	329	1989
8	1550'x1x6x19	8	22	11- 9-33	11-23	7750	8007	257	1991
9	1550'x1x6x19	8	10	11-23-33	11-28	8007	8086	79	960
10	(Steel Core) 1550'x1x6x19	6	Set Casing	6-21-33	.....	4014	.....	....	40
10	(Steel Core) 1550'x1x6x19	8	12	11-28-33	12- 6	8086	8186	100	1104
11	1550'x1 ⅛x6x19	8	20	12- 6-33	12-19	8186	8416	230	2020
12	1550'x1 ⅛x6x19	8	9	12-19-33	12-27	8416	8505	89	940
13	1550'x1 ⅛x6x19	8	24	12-27-33	1-10	8505	8655	150	2664
14	1550'x1 ⅛x6x19	8	28	1-10-34	1-29	8655	8873	118	3136
15	1750'x1 ⅛x6x19	10	46	1-29-34	2-26	8873	9088	215	7204
16	1750'x1 ⅛x6x21	10	39	2-26-34	3-26	9088	9409	321	7020
17	3750'x1 ⅛x6x21	10	85	3-26-34	6-11	9409	10315	906	17000
18	3350'x1 ⅛x6x21	10	39	6-11-34	7-20	10315	10630	315	8619
19	1750'x1 ⅛x6x21	10	42	7-20-34	9- 8	10630	10742	112	8580
20	4000'x1 ⅛x6x21	10	90	9- 8-34	10-24	10742	10888	166	19080
21	1750'x1 ⅛x6x21	10	25	10-24-34	11- 6	10888	10919	31	5362
22	4650'x1 ⅛x6x21	10	71	11- 6-34	2-16	10919	11104	185	15748
23	4000'x1 ⅛x6x19	10	45	2-16-35	3-21	11104	11928	824	10575
24	4650'x1 ⅛x6x21	10	64	3-21-35	5-13	11928	12720	792	15108
25*	4500'x1 ⅛x6x21	10	10	5-13-35	.....	12720	12786	66	.....

*Still in service.

lines were used, and the average ton-mile record was good, considering the hard usage imposed.

Record Length Casing String

Three casing strings were run in McElroy 103, but the last string run and cemented so overshadowed the upper strings that they are barely considered. The 15½-inch surface string was cemented at 762 feet, and a string of 10¾-inch casing was landed and cemented at 4014 feet. Both of these upper strings served a definite purpose and made important shutoffs.

A record string of 7⅝-inch O.D., 34-pound casing was run and cemented at 10,301 feet on July 21 and 22, 1934. The fact that this string represented the greatest weight ever put on a derrick and equipment in running casing necessitated considerable thought and preparation in order to insure successful landing and cementing. First consideration was given the derrick and rig foundation. The sub-structure and

Looking up the derrick when 10,900 feet of drill pipe were stacked.

WILLIAMSPORT

Purple Strand Drilling Lines

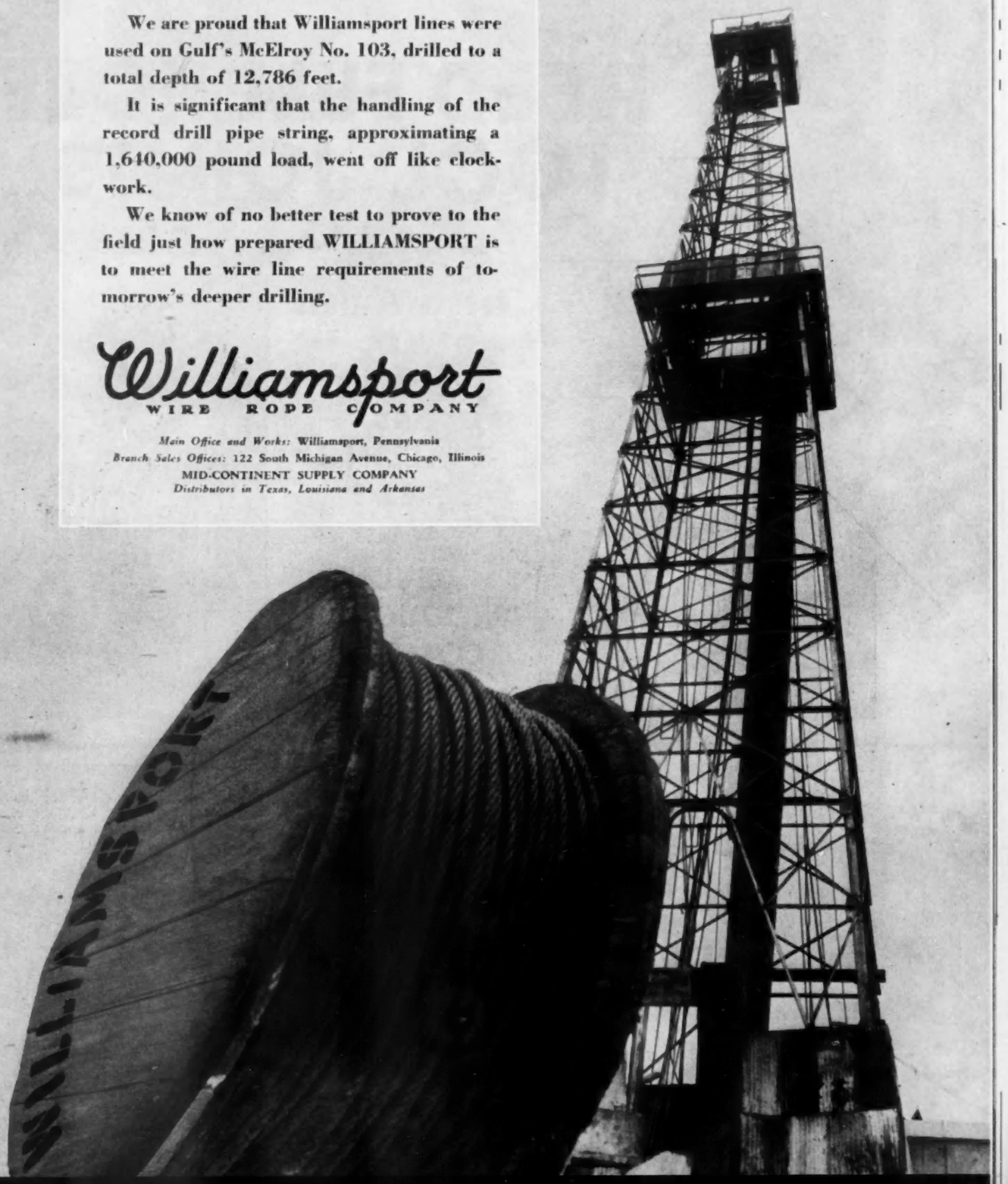
We are proud that Williamsport lines were used on Gulf's McElroy No. 103, drilled to a total depth of 12,786 feet.

It is significant that the handling of the record drill pipe string, approximating a 1,640,000 pound load, went off like clockwork.

We know of no better test to prove to the field just how prepared WILLIAMSPORT is to meet the wire line requirements of tomorrow's deeper drilling.

Williamsport
WIRE ROPE COMPANY

Main Office and Works: Williamsport, Pennsylvania
Branch Sales Offices: 122 South Michigan Avenue, Chicago, Illinois
MID-CONTINENT SUPPLY COMPANY
Distributors in Texas, Louisiana and Arkansas



The NEW WORLD'S RECORD

LONGEST Drill Stem (12,786 FT.) ever used in the WORLD

EQUIPPED WITH

REED FULL HOLE TOOL JOINTS...

"Without a Failure"

Reed Full Hole Tool Joints

Your Assurance of

Greater Dependability

CONGRATULATIONS

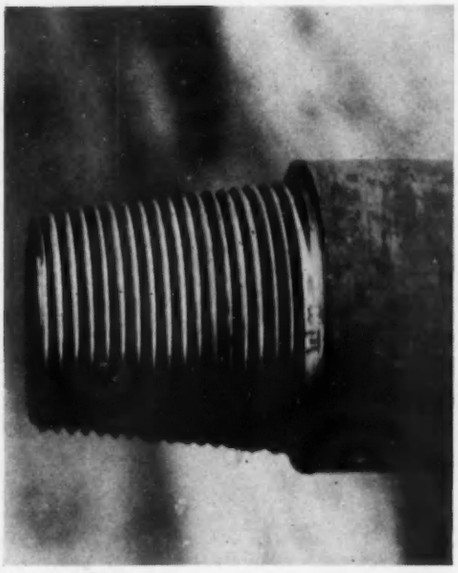
TO THE

EXECUTIVES AND DRILLING CREWS

OF THE

GULF PRODUCTION COMPANY

in the successful drilling of McElroy No. 103 to the outstanding world record depth.



Unretouched photograph of one of the 3½" Reed Full Hole Tool Joints in the string that stood this unprecedented test.

REED ROLLER BIT COMPANY

MAIN PLANT: HOUSTON, TEXAS, U. S. A. P. O. BOX 2119

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Distributed Through Supply Stores Everywhere
Mid-Continent and Gulf Coast Distributors for MARTIN-DECKER PRODUCTS

FOR DEPTH

AND

REED
ROLLER BEARING
ROCK BITS

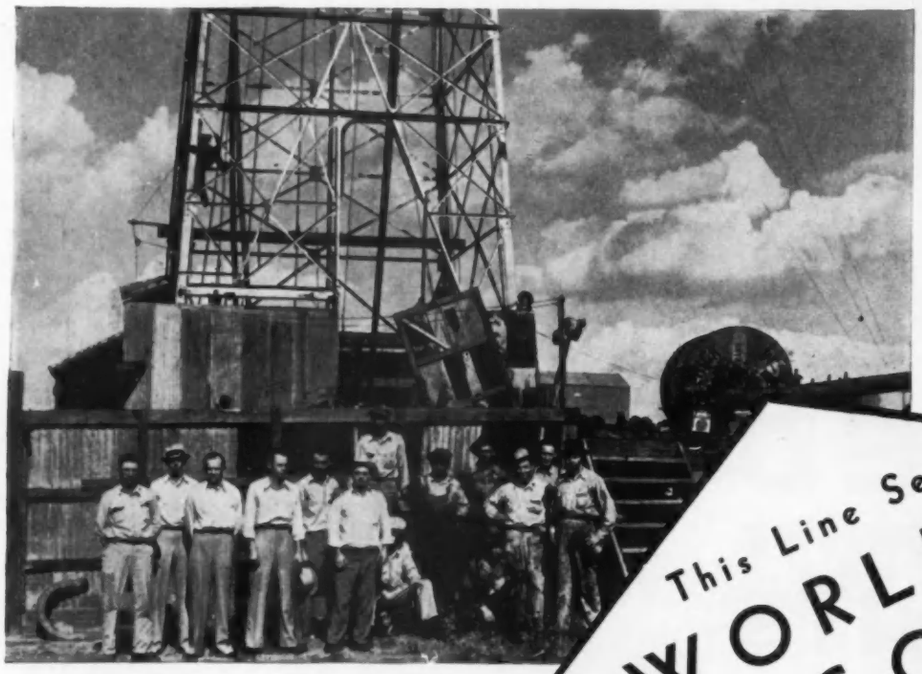
- 19 3/4"
- 13 3/4"
- 9 7/8"
- 6 11/16"

WERE AMONG THE BITS USED IN THE DRILLING TO THIS RECORD DEPTH

AND

REED SINGLE AND DOUBLE 3 POINT REAMERS

WERE USED TO GUIDE THE DRILL BITS AND KEEP THE HOLE TO FULL GAUGE



This Line Set
WORLD'S RECORD
String of 7⅝-in., 34-lb.
CASING
10,301 FEET

Congratulations to the hustling crew who drilled the deepest well in the world —Gulf Production Co.'s McElroy No. 103 —without trouble of any kind.

On this record-breaking job a 1⅛-inch B & B "Flex-Set" Yellow Strand Rotary Line, in 19 hours, ran and landed 10,301 feet of 7⅝-inch, 34-lb. casing — THE LONGEST STRING OF CASING OF THIS SIZE EVER RUN.

"Flex-Set" Preformed Yellow Strand is your old friend, Yellow Strand — limbered up, made easier to handle, quicker to install, easier to break in, smoother to operate — and longer lasting than ever. Try it. Save money.

Broderick & Bascom Rope Co.
ST. LOUIS
Factories: St. Louis and Seattle

THE CONTINENTAL SUPPLY CO.
Mid-Continent and Rocky Mountain Distributor

MURRAY-BROOKS HARDWARE CO.
South Louisiana Distributor

S-5R1

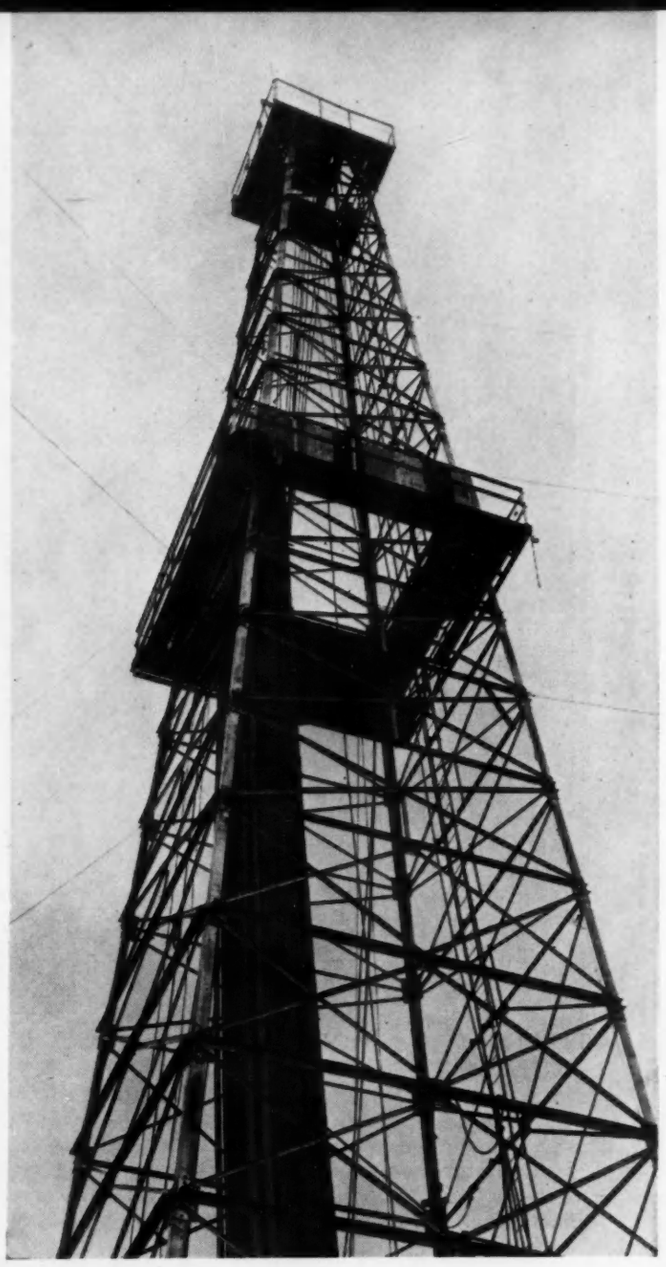
"Flex-Set" Preformed Yellow Strand Rotary Drilling Lines

floor were reinforced by placing 14 x 14 timbers across the cellar floor, and then installing three upright timbers of the same size on each side of the well connections extending upward to the cross timbers which span the cellar. Two 24-inch steel I-beams were then placed under the floor and rested on the four cross sills running north and south and forming the foundation of the derrick floor. The steel I-beams then supported a shop-made foundation for the casing spider. The derrick was carefully inspected and all bolts tightened.

In order to determine the deflection of the derrick at various loads during the time the casing was run, a graduated rod was secured to the top of the derrick and a transit set up 209 feet from the rig so that readings could be taken continuously. The performance of the derrick and foundations indicated that the peak load on the derrick (286,390 pounds) was only slightly over half its rated capacity and that the maximum sag at any time during the running of the casing was 9/16-inch.

After 10,301 feet of pipe were run, an allowance of 42 inches was made to take care of expected contraction in the pipe caused by temperature changes, and also to remove part of the tension in the upper part of the string after the cement had set.

Running of this record length casing string was accomplished in 19 hours, a total of 342 joints for an average of 19 joints per hour. Connections were made for the cementing operations at 9:45 a.m., July 22, and mud circulation established at 10:00 a.m.,

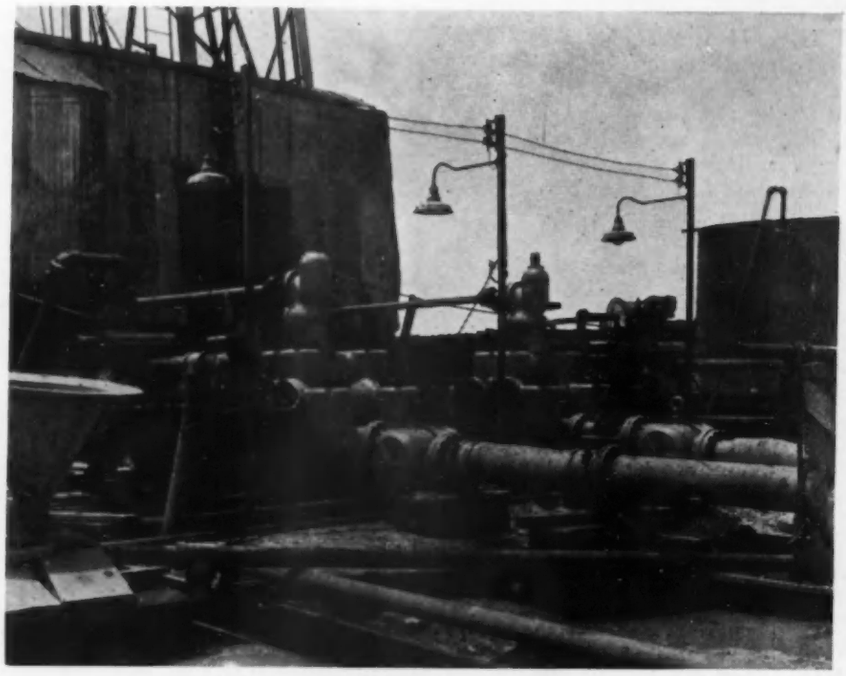


This derrick reaches 136 feet into the air and has a dead load capacity of 537,000 pounds.

Upon stopping drilling operations a number of scientific tests were made. Here the well is shown registering 1600 pounds pressure while under acid treatment.

with a pressure of 750 pounds. Six tons of ice were used to cool the water, and the cement was mixed to an average temperature of 40 degrees. Cementing was started at 10:04, and a total of 1000 sacks were mixed to an average weight of 15 pounds per gallon and pumped into the casing at an average pressure of 500 pounds. The plug was placed on top of the cement and mud pumped into the casing to force the cement outside the pipe. The pressure soon increased from 500 pounds to 1150 pounds, and then remained constant until the plug came in contact with the upper float collar. The pressure increased to 1500 pounds, at which point the pumps were shut down and the well closed in. The entire procedure took only one hour and 15 minutes, of which 26 minutes were required to mix and pump the 1000 sacks of cement.

Some discussion was necessary to determine the amount of room to leave in the top joint to take care of the contraction of the pipe caused by temperature changes, and also to release a part of the tension in



Close up of mud equipment including two 18-inch slush pumps, mixing hopper and mud tanks.

the upper string above the cement. Procedure in the Big Lake field indicated that a 12-inch allowance should be made for contraction and 30 inches for releasing 50 percent of the tension, a total of 42 inches. This method was followed, but as indicated by both the weight indicator readings and calculations in pressure drops, there was no contraction in the pipe, and there was a total theoretical tension in the upper section of the string of 43 inches. Therefore, to release 50 percent of the tension in the upper section of the pipe, an allowance of 21 inches should be made.

The casing was lowered 12 inches after the cement had set for two hours. It is thought that this was not tension let off, but rather an actual lowering of the casing that amount from top to bottom, due to the fact that the cement had not yet hardened enough to support the weight of the casing. When this was done, the weight indicator dropped from 70 to 64 points, but the 30-pound weight drop might have been due to friction. After standing 14 hours the indicator read 61 points, showing a further decrease in the load without a change in the pipe setting. At that time the casing was lowered 30 inches and the indicator dropped to 44 points, showing a load of 154,320 pounds still in suspension. The head was then connected.

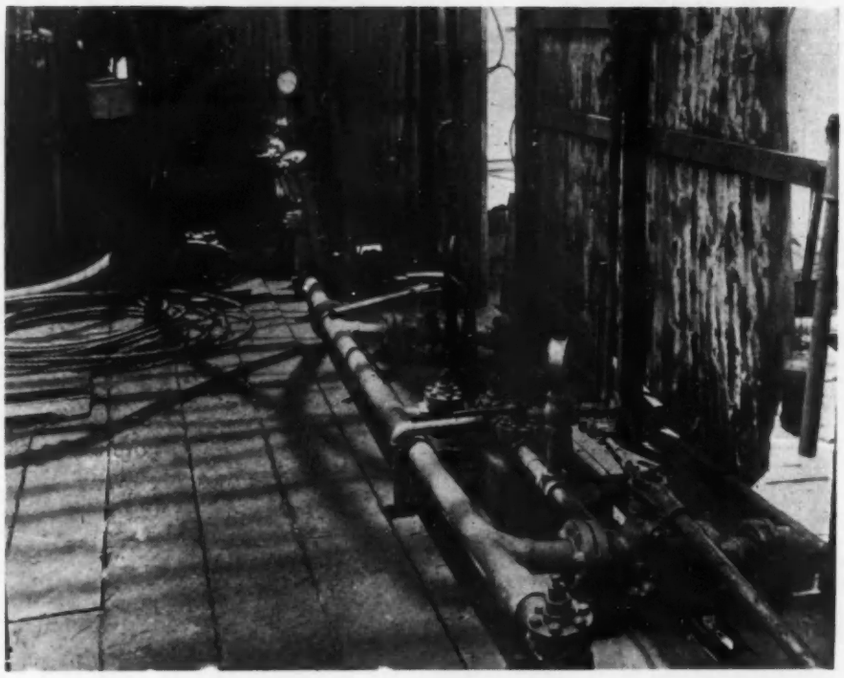
An analysis of the results of the above observations show that under the same conditions, such as depth, temperature, weights, etc., the proper allowance to make for releasing tension should be exactly 21 inches. Such an amount of release would still leave sufficient tension in the entire string above the cement point to insure tightness.

The two factors that stood out during the running of the casing were the straightness of the hole and the condition of the mud used and in the hole when the casing was cemented. At no time was there any indication that the pipe was hanging up on the walls, or that there was any restriction along the walls that would catch the collars. The mud was of very low viscosity, yet had the gel strength to hold cuttings in suspension. The weight was 10 pounds and the viscosity 5.5 centipoise.

Mud Considered Important

Mud was recognized as an important factor in deep drilling, and considerable attention was given this phase of operations. The mud pump pressure was about 200 pounds near the surface, and gradually increased to 1700 pounds near bottom.

The first mud was made from Davis Mountain clay, a native material found about 100 miles west of the well. The mud mixture was kept at a weight of nine



Mud line manifold on derrick floor, which permitted easy, rapid control of pumps.

A TRIBUTE TO THE MEN

WHO DRILLED THE WORLD'S DEEPEST WELL . . . . . AT

12,786 FEET

.. AFTER MEN comes *Equipment*

The skill and courage of man utilized the power and precision of machinery to establish this new world's record.

As Gulf Coast Distributors for Wilson-Snyder Pumps and Kewanee Boilers, both of which were used on this well, we offer our highest praise to the crews who drilled it, and congratulations to the manufacturers for the production of equipment sufficiently powerful and efficient to accomplish such a remarkable feat.

Above are shown the two No. 18 Wilson-Snyder side suction pumps, equipped with suction strainer and flexible hose that were used on this well.

Four 125 H.P., 300-lb. working pressure Kewanee Boilers were used in drilling this record-breaking well.

Wilson Supply Co.

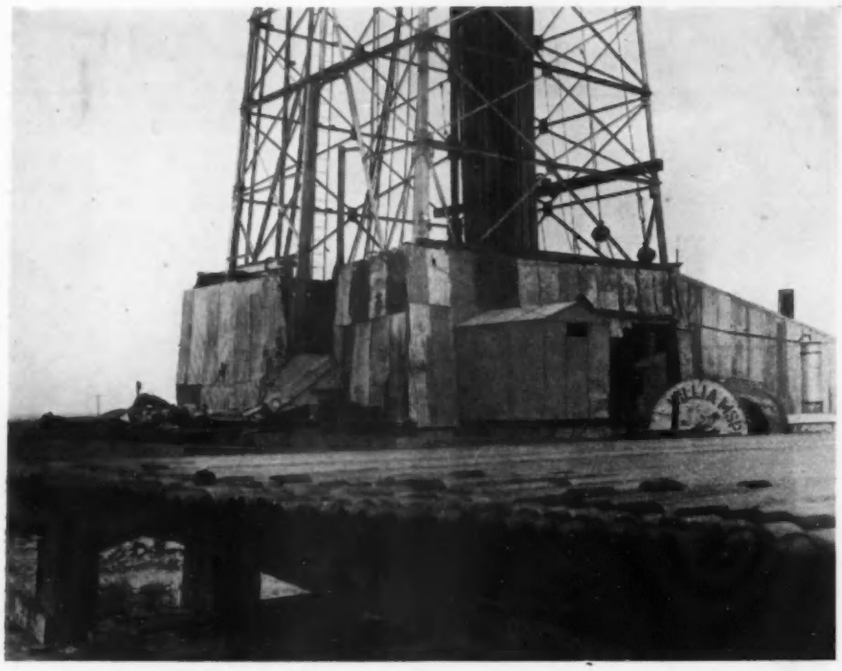
1412 MAURY ST. **HOUSTON, TEXAS**

OIL and GAS WELL SUPPLIES

Also Exclusive Gulf Coast Distributors for
American Cable Tru-Lay *Pre*-formed Wire Rope; Kewanee Boilers; Sievers Reamer; Driftmeter, Jr.

BRANCHES
Barbers Hill, Kilgore, Greta, Gladewater, Port Lavaca and Tomball, Texas; Lake Charles and Shreveport, Louisiana.

Machinery:



Close up of the lower part of the rig at a time when equipment was being dismantled.

pounds near the surface, but was increased to 11 pounds while drilling through the McElroy producing section. Below the shallow producing formation a 10-pound mud was used, and this weight held until a depth of 4000 feet was reached. Clear water was used as a drilling fluid between 4000 feet and 5600 feet, but at the latter depth a sulphur water flow was encountered and it was necessary to mud off this flow with a 9½-pound mud. A 9½-pound mud was used from 5700 to 10,630 feet, but its characteristics were changed to meet conditions. The mud was specially conditioned from 9500 to 10,200 feet to prevent black shale from caving and sticking the drill pipe. Clear water was used as a drilling fluid below 10,630 feet.

Although clear water was used to a great extent as a drilling fluid, the total mud materials used was very high. The total weight of all mud materials was 891,438 pounds. Clay, special drilling fluids, weight materials, conditioners, silica, caustic soda, tannic acid, sodium phosphate and hydrated lime were used in varying quantities.

Improved Drill Pipe Operations

A great deal was added to the company's knowledge of drill pipe during the drilling of this record depth well. Drilling was started with 6⅝-inch O.D., 25.25-pound drill pipe and this size was used in drilling a 19¾-inch and 13¾-inch hole to 4014 feet. From this depth to 10,630 feet, 4½-inch O.D., 16.6-pound drill pipe with welded tool joints was used, size of the hole during this period having been 9⅞ inches. From 10,630 feet to 12,786 feet, 3½-inch O.D., 13.3-pound drill pipe with welded tool joints was used. Size of the hole from 10,630 feet to bottom was 6 11/16 inches.

While using the 4½-inch drill pipe, from 10 to 14 joints of special 77.1-pound, 6⅝-inch hydraulic pipe was used on bottom to add weight to the bit. While using the 3½-inch pipe, the same amount of special 4½-inch, 40-pound hydraulic pipe was used for the same purpose. The heavier and stiffer bottom section prevented whipping and was a very important factor in the elimination of fishing jobs below 7400 feet.

It was soon noticed that most of the drill pipe failures occurred at the tool joints. After electric welding all tool joints in the 4½- and 3½-inch drill pipe strings, no fishing jobs were recorded.

The fact that no fishing jobs occurred below 7421 feet is considered remarkable. Twist-offs above that depth were not unusual, but they were not of a serious nature. The 4½-inch tool joints were electric welded, and the practice was so successful that the 3½-inch joints also were welded. This practice was chiefly responsible for the elimination of fishing jobs below 7421 feet. More than 2200 pounds of welding rods were used in welding the tool joints of the 4½-inch string.

Use of very heavy drill pipe above the bit also was considered an important factor in elimination of fishing jobs. The special 77.1-pound, 6⅝-inch drill pipe placed on bottom of the 4½-inch string gave added weight on the bit without allowing the necessary weight to extend the full length of the drill string. The theory was to prevent any slack in the drill pipe close to the bottom of the hole, where the rotary motion would throw an excess strain and whipping action on the drill string. Prior to the use of this heavier bottom section, a total of 72 joints of 4½-

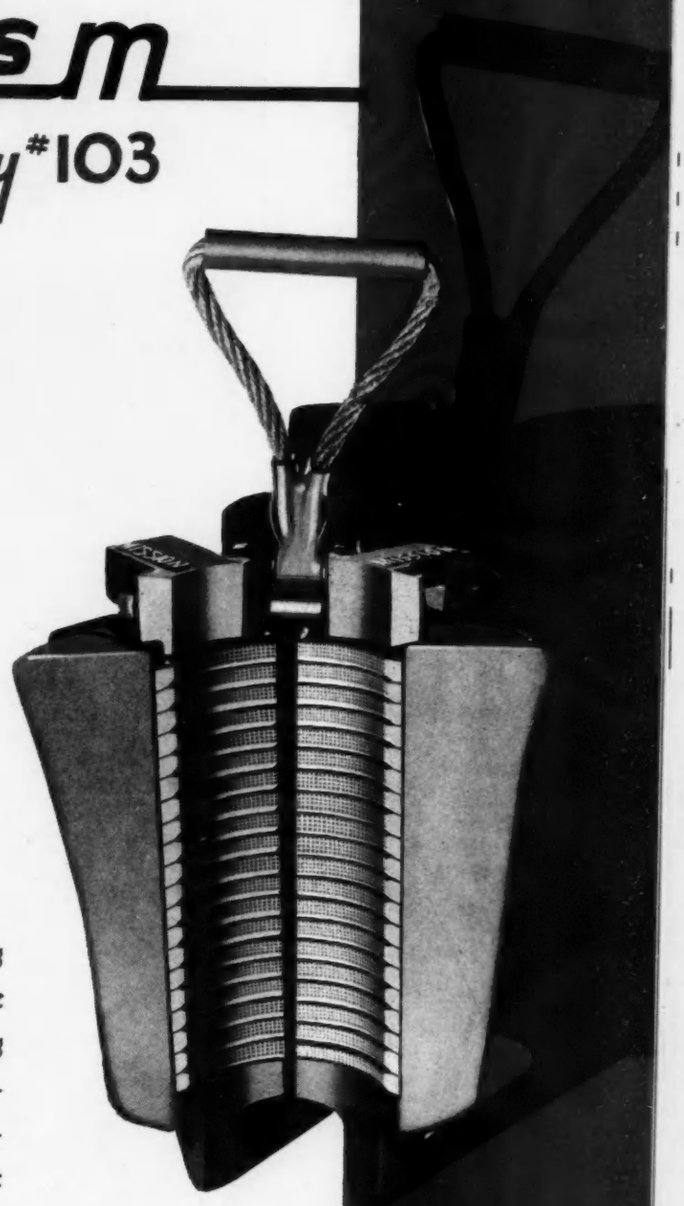
WORLD'S LONGEST *Drill Stem*

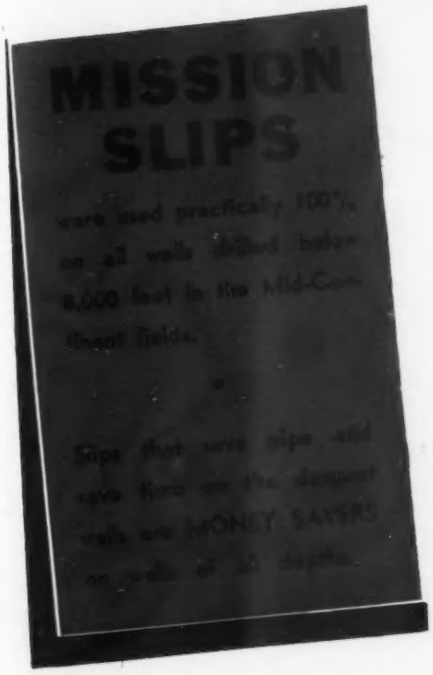
12,786 FT. *McElroy* #103

HANDLED FROM START *to* FINISH BY

MISSION SLIPS

SIZES 6" 4" AND 3"





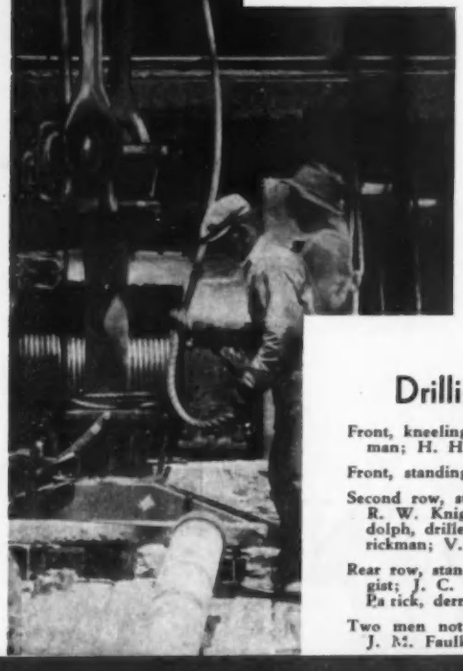
The Mission Manufacturing Company congratulates the Executives and Drilling crews of the Gulf Production Company in the successful drilling of the McElroy No. 103 to the world's record for depth.

MISSION MANUFACTURING CO.

HUMBLE ROAD HOUSTON, TEXAS

MISSION SLIPS . . . MISSION VALVES . . . MISSION PISTONS . . . MISSION PISTON RODS
SOLD THROUGH SUPPLY STORES EVERYWHERE

It takes GOOD CREWS a well 12,786



We are proud to have had our products used on Gulf Production Company's No. 103 McElroy in Upton County, Texas.

Proud also of crews who used these tools to drill a well 2.422 miles in depth without a single "lost time" accident.

Good Crews and BJ Tools always seem to "have what it takes to get the job done."

Drilling Crew - - J. T. McElroy No. 103

Front, kneeling, (left to right)—J. G. Moan, derrickman; Raymond Knox, fireman; H. H. Moore, driller; A. G. Harper, derrickman.

Front, standing at center—George McElveen, driller and son Archie McElveen.

Second row, standing (left to right)—M. Hart, helper; C. D. Aycock, driller; R. W. Knight, derrickman; Walter J. Walsh, drilling foreman; R. C. Randolph, driller; R. L. Knight, helper; O. J. Bailey, fireman; Frank Hajek, derrickman; V. F. Tilley, helper.

Rear row, standing (left to right)—E. D. Brockett, helper; B. G. Martin, geologist; J. C. Neal, fireman and relief driller; H. D. Holliman, helper; T. E. Patrick, derrickman; A. G. Dement, helper.

Two men not present when picture was taken were: O. W. Evans, fireman; J. M. Faulk, helper.

DRILLING TOOLS FOR

and GOOD TOOLS to dig

feet deep!

Safe for wells of any depth and with a type and size to fit in with your drilling program, BJ Tools offer the most modern features of convenience and long-life economy.

BJ Elevators and Hooks easily carried strings of drill pipe almost 2½ miles long, and the fast operation of BJ Tongs saved many hours of time going in and coming out of the hole.

The Complete BJ line is ready at YOUR SUPPLY STORE

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BJ

Center Latch Elevator has a "hidden" latch safe from accidental opening; long horns in front and a handle at rear provide ease in handling.

BJ Triplex Hooks are made for 300-ton or 150-ton loads, and have the exclusive "locking-arm" for maximum safety.

The combination type BJ Extra Heavy Casing and Rotary Tongs has integral handles and other new features.

The BJ Side Door Slip Casing Elevator (used to set the 10,301 foot string of 7⅝"—28 lb. casing) is fast, safe beyond question, and can quickly be removed while cement is setting.

DEEP WELLS

inch drill pipe and lighter 6⅝-inch drill pipe had been laid down because of crooking in the hole while drilling. Use of the very heavy pipe solved this problem.

Bit Designs Are Changed

It is believed that more bits and core heads, included as one item, were used in drilling McElroy 103 than in drilling any other well. A total of 965 bits and core heads were used. A much higher percentage of hard formations were encountered than should normally be expected, and this caused the frequent replacement of bits. During the drilling of some of the hardest strata, more than 50 bits were used in making 50 feet. Thirty-four of the 965 bits were run and worn out without making any hole. This shows how extremely hard were some of the formations encountered, and speak well of drilling practices. The drilling time with the bits that failed to make hole in the unusually hard formations ranged from one to 5¾ hours. In the upper part of the hole, a few bits made from 100 to 270 feet, but the average for the entire well was very low. A number of bits made only six inches of hole, and one foot per bit was not uncommon.

The drilling of McElroy 103 brought about certain improvements in bits and core heads. Manufacturers worked with Gulf Production Company and from the knowledge obtained were able to make changes in bit designs that resulted in good progress in formations that previously had worn out bits in a very short time. Slight changes in cutter angles increased the footage made by bits in certain formations.

An analysis of drilling through the chert section gives an idea of the hardness of the formation immediately below 10,000 feet. Drilling progress through this section follows:

11,117
10,170

947 feet of chert section.

Total rotating hours—1720.

$$\frac{947}{1720} = .55 \text{ feet per rotating hour.}$$

Total rock bits and core heads used, 346.

$$\frac{947}{346} = 2.45 \text{ feet per bit.}$$

Total core heads used..... 29
Total footage cored 135
Total footage recovered 52.5
Total rock bits and core heads with which no footage was made 31
Total rock bits and core heads used between 10,700 feet and 10,750 feet..... 50

An analysis of drilling through the limestone below the chert shows an interesting contrast to the chert section. Data on this thinner and softer section follows:

11,346
11,156

190 feet of limestone section.

Total rock bits and core heads used, 5.

Total rotating time, 52.5 hours.

$$\frac{190}{5} = 38 \text{ feet per bit.}$$

$$\frac{190}{52.5} = 3.6 \text{ feet per hour.}$$

Bit Record—J. T. McElroy 103

(Bits Used from Surface to 10,630 Feet)

Type No.	Size	No. Used	Total Footage	Total Hours	Drl'g. Speed Ft. Per Hour	Av. Ft. Per Bit	Total Core Recovered	Percent Recovery
1	19¾	5	358	94	3.7	71.8		
2	19¾	5	331	86	3.8	66.2		
3	19¾	20	524	103	5.0	26.2		
4	13¾	6	40	20	2.0	6.6		
5	13¾	20	947	212	4.4	47.0		
6	13¾	38	2161	530	4.1	56.9		
7	13¾	8	472	116	4.0	59.0		
8	13¾	1	2	2	1.0	2.0		
9	9⅞	1	81	9	9.0	81.0		
10	9⅞	7	252	80	3.2	36.0		
11	9⅞	1	16	7	2.3	16.0		
12	9⅞	245	4967	2253	2.2	20.3		
13	9⅞	46	1459	589	2.5	31.7		
14	8¼	3	41	23	1.8	13.7	(Hard) 22	53.6%
15	7⅞	169	1729	865	2.0	10.2	704	40.7%
16	7⅞	2	16	4	4.0	8.0	(Soft) 0	0.0%
17	6¼	22	264	133	2.0	12.0	(Hard) 144	54.5%
18	6 11/16	3	47	25	1.9	15.6		
(Bits Used in 6 11/16" Hole from 10,630 to 12,786 Feet)								
19	6 11/16	267	1623	1452	1.11	6.08		
20	6¼	2	5	7½	0.7	2.5		
21	6 11/16	4	4	11	0.36	1.0		
22	6 11/16	34	186	151	1.23	5.49		
23	6 11/16	19	90	57	1.58	4.74	11½	
24	6¼	4	16	14	1.14	4.0	9½	
			106				21	19.81%
25	6 11/16	24	184	99	1.86	7.66	98	
26	6¼	4	47	19¾	2.38	11.75	44	
			231				142	61.47%

Total bits used from 0 to 12,786 feet..... 718*
Total core heads used from 0 to 12,786 feet..... 247

Grand Total..... 965*

*Includes five bits used in drilling crooked hole that was lost.

Enlarge Equipment Size

The 136-foot derrick with 26-foot base was capable of carrying a dead load of 537,000 pounds. When the well was completed, power was derived from four 125-horsepower, 350-pound working pressure boilers, although a steam pressure of only 300 pounds was carried. A 12 x 12 twin-cylinder steam engine served well and proved heavy enough under all conditions.

The draw works was increased in size as drilling progressed, and when drilling stopped the largest type available was being used. The heavy draw works, which was equipped with a special hydraulic brake, was the four-speed type, with 10-inch drum shaft, and 9 1/4-inch jack and line shafts. In extremely deep tests, the heavier draw works provide a margin of safety that is very desirable.

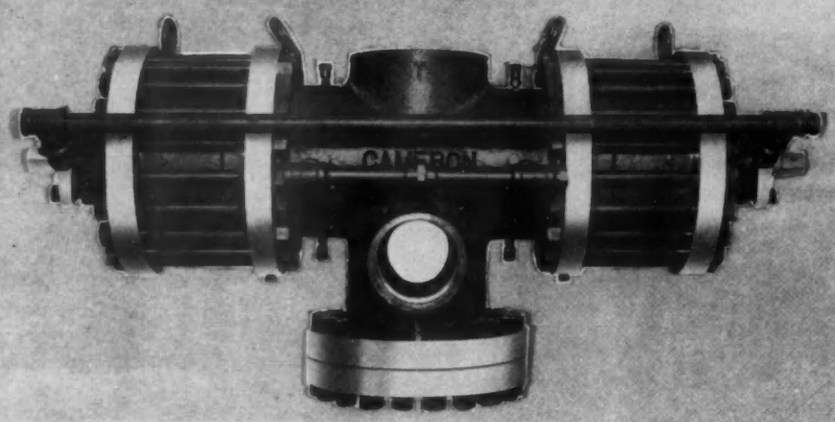
A 27-inch rotary table was used from start to finish. The table had been used for some time prior to spudding McElroy 103. The traveling block weighed 10,000 pounds and was one of the first of its type ever used. Five manganese steel sheaves and special bearings were used in its construction. The crown block also was one of the heaviest ever built. It was constructed with six 46-inch manganese steel sheaves, grooved for 1⅛-inch wire lines, and carried a safe working load of 504,000 pounds with a safety factor of two. The hook had a safe working load of 600,000 pounds.

The six-inch, heavy-duty swivel gave remarkable service. It was installed when drilling commenced and required no attention at any time. A four-inch by 40-foot Kelly joint was used at all depths.

It is difficult to enumerate all equipment used on the well. Such items as rotary chain, drilling lines, wrenches, valves and miscellaneous machinery gave

Into Unknown Formation but insured with

KNOWN PROTECTION



Gulf's famous McElroy 103, drilled to a new world record depth, is shown at the right. A Cameron Blowout Preventer helped to guard the job against possible hazards of high pressure.

We congratulate the Gulf organization on accomplishing this unprecedented depth record, and appreciate the opportunity of having played our part in the job's safety.

CAMERON IRON WORKS

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HOUSTON, TEXAS, U. S. A.

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good service and received the same care and attention from the drilling crew members as did the large pieces of equipment.

Scientific Tests Made

A number of scientific tests were made in connection with drilling McElroy 103. These tests were a valuable contribution to the data derived from the more conventional sources.

An electrical logging device was run into the well when drilling was suspended at 10,630 feet to run casing. This survey included all the open hole from 4000 feet to the bottom of the well at that time. When drilling stopped at 12,786 feet, the portion of the hole below 10,630 feet also was surveyed in the same manner. These surveys checked closely with the log compiled by the company while drilling.

Before the well was plugged back from 12,786 feet, a seismic survey was made by lowering a geophone into the hole at various depths from top to bottom, and discharging definite quantities of dynamite at different distances from the well.

Temperatures near the bottom in the well were remarkably low. While the production test was being made at 10,630 feet a temperature reading was made at 10,542 feet by lowering a maximum reading thermometer inside the directional survey tube. The thermometer was allowed to set for one hour and 40 minutes, and showed a reading of 149°F. Another reading taken the following day at 10,600 feet also indicated a temperature of 149°F. When drilling was suspended at 12,786 feet a complete temperature survey was made from 3625 feet to bottom. The temperature on bottom was only 182°F., a much lower maximum than would normally be expected for such a depth. The low temperatures below 10,000 feet undoubtedly aided drilling operations in a number of ways.

Unusual Coring Record

No cores were taken above 3900 feet, the first core between 3920 and 4020 feet having been taken to determine a casing seat. Coring was continuous between 4400 and 4600 feet for the purpose of determining the degree of porosity at that level. Two very interesting cores were taken from 5829 to 5840 feet. These cores showed the dolomite to be extremely porous, many of the pores being as much as two-tenths of an inch in diameter. Seven short cores were taken between 5840 and 7416 feet. From 7416 to 8950 feet the section was cored almost continuously, with a recovery of about 40 percent. This section as a whole was very fossiliferous, and an excellent faunal collection was obtained from the cores.

From 8950 to 9448 feet, intermittent coring was done at intervals of approximately 35 feet, and the recovery was around 25 percent. These cores also carried good fauna. Only a few cores were taken from the black shale section. From 10,167 to 11,346 feet a total of 140 feet of cores were taken, with a recovery of 52 feet. Due to the fact that a large part of this section consisted of pure chert, many attempts were made without recovery because of the hardness of the formation. Fossils were common at several horizons.

From 11,346 to 12,391 feet a total of 91 feet were cored, with a 48-foot recovery. Fossils were common in most of these cores. From 12,391 to 12,786 feet a total of 185½ feet were cored, with a 52-percent recovery. These cores showed excellent porosity be-

This 12 x 12 twin-cylinder engine was on the job during the entire time. The drawworks shown has a 10-inch drum shaft and 9¼-inch jack and line shaft. It was installed after reaching a deep depth.

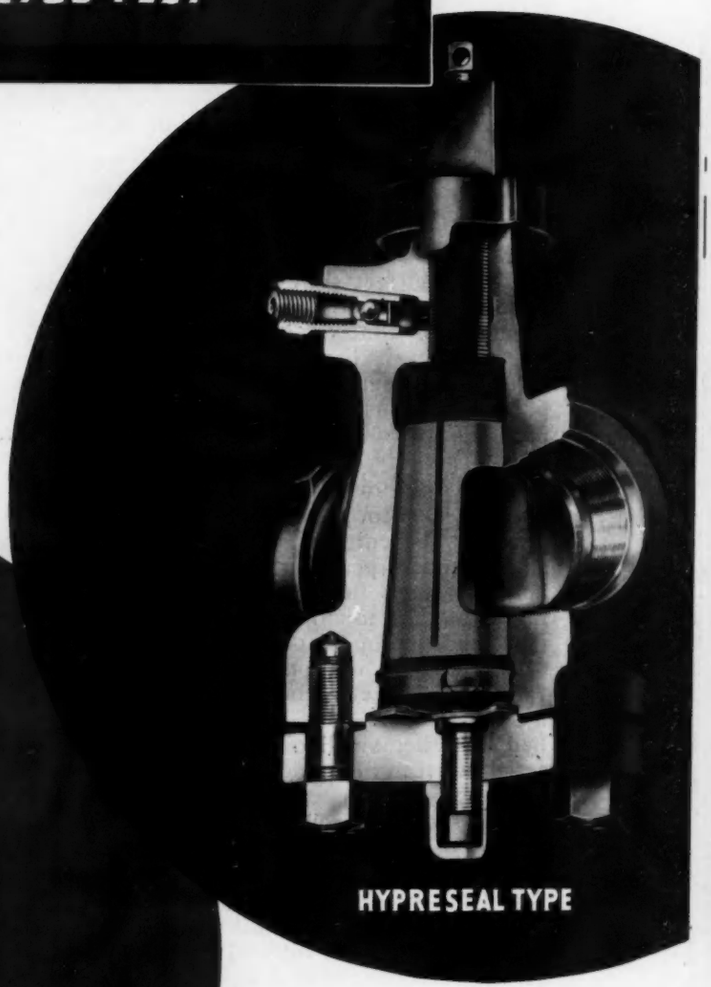
ANOTHER EXAMPLE OF GOOD ENGINEERING

NORDSTROM VALVES USED IN DRILLING WORLD'S DEEPEST WELL

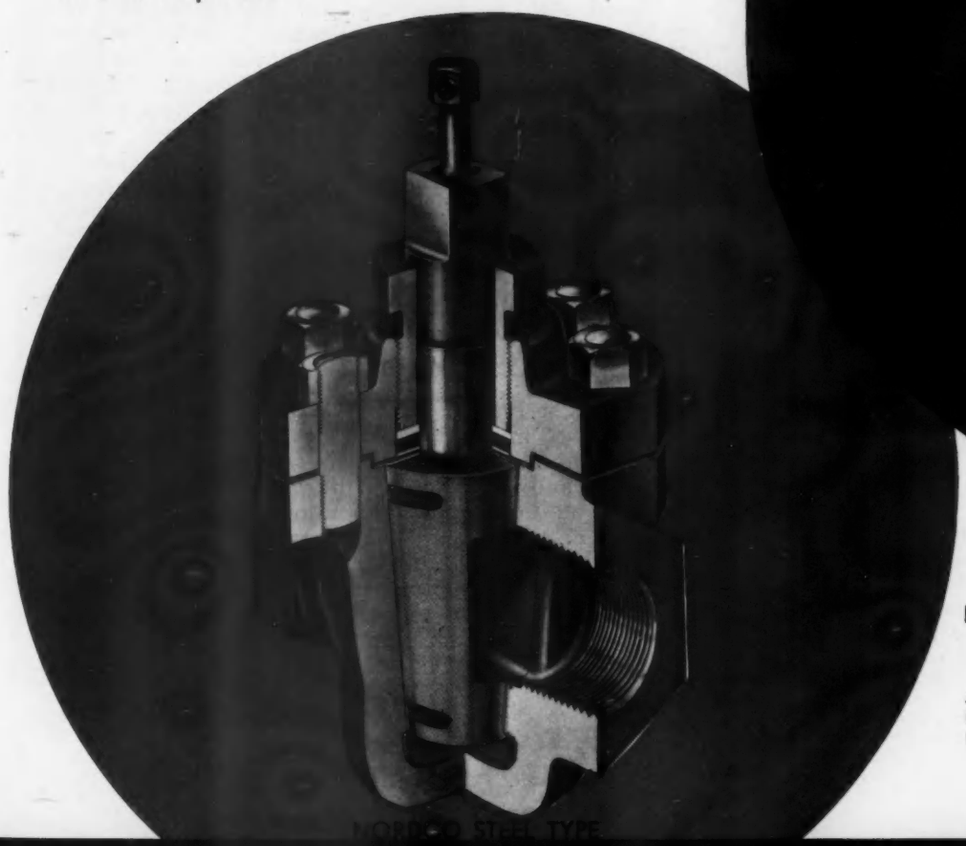
McELROY No. 103 - 12786 FEET

Rendering perfect service - throughout the drilling of the World's Deepest Well, McElroy No. 103, Nordstrom Valves again demonstrate their extreme stability, speed in operation and effective sealing characteristics.

Nordstrom High-pressure Lubricated Valves, including Nordco Steel and Hypreseal types, were used on various lines at this record-breaking well, — on the mud-pump suction lines, standpipe and mud flow lines, manifolding hook-up, steam lines, and as a final safety factor on the mud discharge from the blowout preventer.



HYPRESEAL TYPE



NORDCO STEEL TYPE

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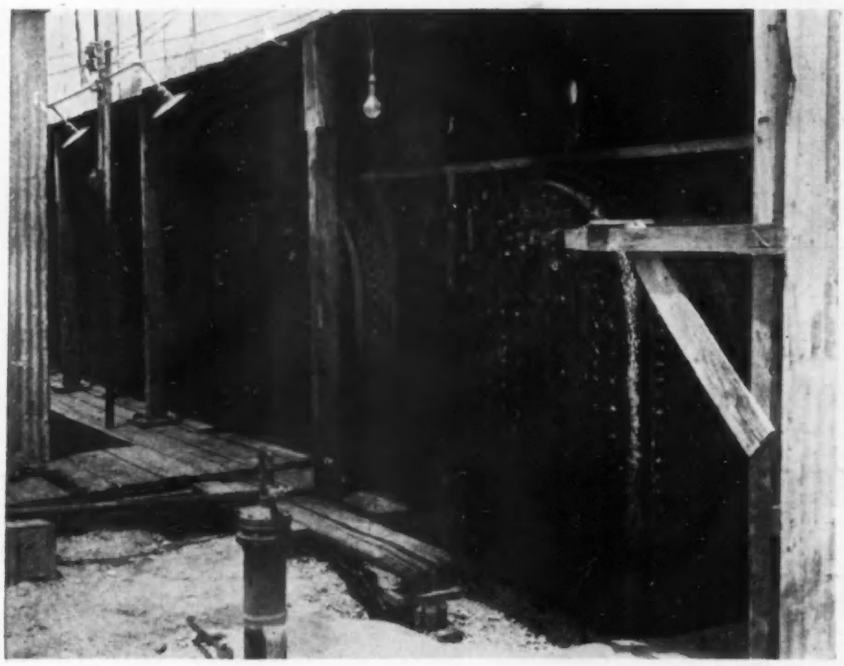


These four 125-horsepower, 350-pound working pressure boilers, were operated at a pressure of 300 pounds.

tween 12,664 and 12,765 feet, and a few small cavities were filled with black sulphur water.

Oil, Gas and Water Horizons

The two persistent sandstone horizons that occurred above 600 feet were water bearing, and a test made at 200 feet showed nine 10-inch bailers every 30 minutes. No more fluid was encountered until the regular 2800-foot oil horizon in the McElroy pool was penetrated. From 2900 to 3900 feet no record of water was noted, although it is believed that many porous horizons are present, because of the loss of mud. From 3900 to 4000 feet cores showed the section to be very porous and to have a strong hydrogen sulphide odor.

From 4000 to 6000 feet several porous zones were noted in the cuttings, and a flow of 105 barrels of sulphur water per hour was developed between 5385 and 5557 feet. Below the regular McElroy producing formation, found between 2730 and 2900 feet, the first evidence of oil and gas occurred from 6600 to 6800 feet. Porosity appeared to be very slight. From 7882 to 7899 feet a core was recovered that showed a small amount of oil and gas from a 10-foot lime bed. Another small oil and gas show was encountered between 8130 and 8145 feet. The limestone carrying these shows extended from 8100 to 8300 feet and was quite porous.

A core recovered at 8375 to 8390 feet was very porous and had a strong salt taste. At 8880 to 8890 feet a finely cemented limestone was cored that also had a strong salt taste and apparently carried water. The next group of oil and gas shows occurred between 9040 and 9114 feet in a series of gray and black cherty limestones and shales. None of these formations were tested until after the well was completed and plugged back to the various horizons. The 7⅝-inch casing has been perforated and tests of the upper formations are underway.

From 10,581 to 10,625 feet a show of gas and a slight show of oil was noted in cores of siliceous limestone. Pipe was set at 10,301 feet and the hole swabbed through 2½-inch tubing. No show of oil or gas was developed. From 10,795 to 10,830 feet the first oil appeared in the mud pit. This oil was light green in color and came up in sufficient quantities to be skimmed off. An increase was believed to have been obtained from 10,935 to 10,978 feet. A test was again made through tubing, and in the elapsed time of 69 hours a total of 168 barrels of fluid was produced, of which 22½ barrels were oil and 145 barrels were water. From 10,978 to 12,658 feet no oil, gas or water horizons were recorded.

From 12,658 feet to 12,765 feet cores showed the section to be very porous, and of a cavernous type lined with dolomite crystals. All the cores had a strong salty taste and a distinct hydrogen sulphide odor. From 12,690 to 12,720 feet a strong odor of gas was detected and the core was covered with light oil. A swabbing test made at 12,720 feet through tubing indicated that the fluid level could not be lowered below 3100 feet. This fluid consisted of black sulphur and salt water with a slight trace of oil and gas.

Geological Formations

Gulf Production Company's J. T. McElroy 103 is located 1980 feet north and 660 feet east of the southwest corner of Section 197, Block "F", C. C. S. D. and R. G. N. R. R. Survey, near the middle of the west line of Upton County, West Texas, and about 35 miles south of Odessa and 125 miles west of San Angelo. The well is approximately 40 miles west and 10 miles north of the Big Lake field, Reagan County, where Ordovician production was first discovered in West Texas at a depth of about 8500 feet. The location is 30 miles north of Humble Oil & Refining Company's White-Baker 1, Pecos County, which was abandoned at 9812 feet in the Lower Ordovician sediments.

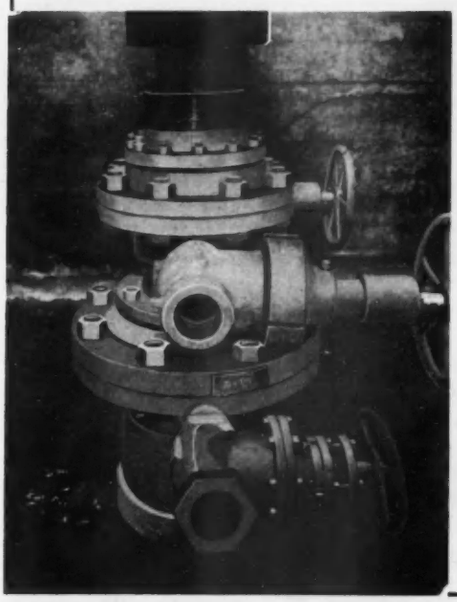
From a regional structure standpoint, the record

The Foundation of the World's

DEEPEST HOLE

On Gulf's McElroy 103 record depth hole 10,301′ of 7⅝″ casing (a record string for this size pipe) was run in 18 hours working time, without a shutdown, to hang up another record. Total tension on casing, with 5700′ of mud in the hole, was 275,000 pounds.

RECTOR WELL EQUIPMENT CO. INC. — RUGGED RELIABLE RAPIDLY REPLACEABLE — RECTOR — FORT WORTH, TEXAS U.S.A.



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•

A RECTOR 16″ to 10¾″ head supported 4,015′ of 10¾″ casing, plus tubing string, Christmas tree, and the pull of the anchor rods. A RECTOR 10¾″ to 7⅝″ head, with Adapter gland, supported the 10,301′ of 7⅝″ 34-lb. casing.

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AND WAKE UP EACH MORNING FRESH AS A DAISY!

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45TH STREET - JUST WEST OF TIMES SQUARE

W. STILES KOONES - MANAGER

On McElroy No. 103

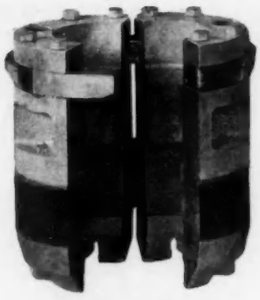
WORLD'S RECORD DEPTH HOLE

McEVOY

Hosmer Patent, Manually Operated

BLOWOUT PREVENTER

10¾ O.D. x 4½ O.D. was used



McEVOY-HOSMER Automatic Packing Assembly

*PATENT NUMBERS: 1,525,582 1,662,707 1,867,321

**Patents Pending

It was mounted on top of a ram type preventer of the same size.

It was used during the **DRILLING** of the well and the **SETTING** of the **OIL STRING** for which latter operation an extra packing assembly was provided.

•

Complete Blowout Preventer including body, lip ring and automatic packing assembly in place.

The McEVOY HOSMER TYPE (Patented*) is the most highly improved of this type of blowout preventer and it is in constant daily use by many of the leading and certainly the most discriminating producers of oil in the United States.

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The McEvoy Company has stepped out far in the lead in the development of Packing Assembly Types of Blowout Preventers, both straight bowl and tapered bowl, by developing the . . .

INSERTER MECHANISM**

for handling the packing assemblies entirely by mechanical means and with great speed.

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J. H. McEVOY & COMPANY

Established 1906

TEXAS AT MILBY—HOUSTON, TEXAS

well is located on the eastern edge of the West Texas Structural Platform, and is situated near the highest part of the local structure that is responsible for the 2800-foot Permian production of the McElroy pool. The objective was to test the Lower Ordovician section, which is the producing horizon at Big Lake. This objective was successfully reached, and drilling stopped in the Lower Ordovician, despite the finding of unusually hard formations.

A general summary of the geologic formations penetrated in this test clearly shows that by far the greater part of the hole was drilled through the "hard rock" classification. From the surface to 920 feet, Triassic and Permian red shales and sandstones were encountered. The top of the anhydrite, or Rustler formation, was penetrated at 920 feet and from this depth to 1910 feet the section consisted principally of salt and anhydrite. From this depth to 2620 feet, the section was chiefly anhydrite with rare red sand and shale. The top of the McElroy-Big Lake limestone was encountered at 2620 feet, and the usual McElroy pool dolomite pay from 2730 to 2900 feet. From here to 7500 feet a hard, dense, finely crystalline Permian dolomite and limestone section was penetrated. The remarkable change in lithologic characteristics, with consequent difficulty in drilling here as compared to areas to the east is readily appreciated when it is realized that at the Big Lake field, Reagan County, the equivalent of this dolomite consists principally of dark calcareous shale.

Pennsylvanian sediments extended from approximately 7500 to 10,167 feet, and consist of a series of interbedded limestones and shales to 9430 feet. Below this depth a black splintery shale was present, which tended to cave slightly in the lower part.

Pre-Pennsylvanian sediments were encountered at 10,167 feet. From the standpoint of drilling, the section from 10,167 to 11,140 feet was unusually difficult, as it consisted chiefly of gray chert and siliceous limestone. Some idea of the difficulties encountered in penetrating this 973-foot section will be appreciated when it is realized that it required approximately seven months of operation. Neither the wells at Big Lake, nor any wildcat test in West Texas, had previously encountered this chert formation.

From 11,140 to 11,680 feet, predominantly white, gray and dark brown, partly siliceous limestone was located. Below 11,680 feet and above 12,391 feet, a series of interbedded brown limestone and maroon and grayish green shales were found. Several sandy horizons also were present in this interval.

At 12,391 feet, the Lower Ordovician dolomite was reached and penetrated to 12,786 feet, the total depth. This horizon, which is the deepest producing section at Big Lake, was found to be extremely porous between 12,658 and 12,765 feet. A swabbing test showed salt and sulphur water. After the porous zone had been penetrated, drilling was suspended with the hole in good condition, since the objective of the test had been successfuly reached.

Summary of Geologic Formations—J. T. McElroy 103

Age	Character	Depth Feet
Triassic	Red shales and sandstones	0–600
Permian	Red shale and sand	600–920
	Anhydrite and salt	920–1910
	Anhydrite and some red sandy shale	1910–2620
	Gray and brown dolomite	2620–7500
Pennsylvanian	Limestone and shale, interbedded with rare sandstones and conglomerates	7500–9430
	Black, splintery shale	9430–10167
Pre-Pennsylvanian	Gray chert and siliceous limestone	10167–11140
	White, gray, and brown limestone	11140–11680
	Brown limestone and grayish green shale	11680–12391
	Brown and white dolomite-porous from 12,658 to 12,765	11391–12786

An airplane view of Gulf Production Company's McElroy camp. The 12,786-foot McElroy test is in center background.

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WORLD DEVELOPMENTS and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

World Geological Meet

IS TO BE HELD AT MOSCOW, U. S. S. R., DURING AUGUST, 1937

AUGUST, 1937, has been set as the date for sessions of the Seventeenth International Geological Congress at Moscow, U. S. S. R.

Sessions proper will take up the first half of August, leaving July, the latter part of August, and part of September open for excursions.

Following is a list of topics proposed by the organization for discussion at the congress: Problem of Petroleum and Petroleum Resources of the World; Geology of Coal Fields; Pre-Cambrian and Mineral Deposits in Regions of Its Expansion; Permian System and Its Stratigraphical Position; Correlation of Tectonic Processes, Magmatic Formations and Ore Deposits; Tectonic and Geochemical Problems of Asia; Deposits of Rare Elements; Geophysical Methods in Geology, and History of Geological Knowledge.

While the proposed program of the work of the congress is considered sufficiently long to fill up the time devoted by the session to the reading of papers, the organization committee will welcome any suggestion of topics appropriate for discussion. Officers of the committee include the following: A. P. Karpinski, president of the Academy of Science of U. S. S. R., honorary president; I. M. Goubkin of the Academy of Science, president; A. A. Borissjak of the Academy of Science, vice president; D. E. Perkin, geologist, vice president of administration and general treasurer; A. E. Fersman of the Academy of Science, general secretary; A. H. Blohkin, geologist, assistant secretary.

English, French and Russian have been chosen as the official languages of the Seventeenth International Geological Congress.

Five choices of excursions, requiring from 15 to 28 days each, are available before the sessions convene. The first, which will be open to as many as 100 delegates, and which will consume about 15 days, is listed as the "Northern Excursion". It will involve inspection of stratigraphy, lithology and tectonics of Pre-Cambrian strata and intrusive alkaline rocks and pegmatites. The route goes through Moscow, Leningrad, Petrozavodsk, Medvezhya, Gora, Segozero, Kem, Kandalaksha, Kirovsk, Olenye, Murmansk, Tuloma River, Soroka, and Stalin Canal.

The second excursion, taking from 20 to 22 days and available to as many as 100 delegates, is called the "Ural Excursion." It involves tectonics and stratigraphy of the Ural, the Permian and Upper Carboniferous strata, with the operations to be visited consisting largely of coal and ore mines.

"Southern Excursion" is the third trip available before the sessions convene. Participants on this trip are restricted to 150, and 20 days is listed as the time necessary to make it. It also is primarily a mining engineer's trip.

"Volga Excursion" is the fourth choice. It will include observation of the Mesozoic and Quarternary of the Volga Basin. Twenty days will be required for the trip, which is routed on the Moscow-Volga canal and one down the Volga River from Moscow to Stalingrad, and back to Moscow by train via Riazan. This trip is limited to 100 participants.

The fifth choice before the sessions open is the "Caucasus Excursion," requiring 26 to 28 days and limited to 50 delegates. It involves the stratigraphy and tectonics of the Tertiary, Mesozoic, Paleozoic, and Pre-Cambrian deposits of the North Caucasus and Transcaucasia. The itinerary is Moscow, Rostov-on-Don, Maikop, Krasnaya, Poliana, Sukhum, Kutais, Oni, Chiaturi, Borzhom, Erivan, Norashen, Lake Sevan (Gokcha), Akstafa, Dashkesan, Tiflis, Ordjonikidze, Piatigorsk, and back to Moscow.

Short excursions, requiring from one to two days, will be conducted during the period of sessions. These will be announced later, according to the organization committee.

After the sessions, lengthier trips are planned. These will require from 40 to 50 days each. They include, according to present plans, the following: Petroleum and Geological Stratigraphical Excursion; Central Asia Excursion; Transcontinental Excursion; and Turkestan-Siberia Excursion.

All persons planning to attend the Seventeenth International Geological Congress at Moscow in 1937 are requested to communicate such intention to "Organization Committee of the Seventeenth International Geological Congress, Moscow 4, Kotelnicheskaya Naberezhnaya 17, U. S. S. R."

•

U. S. S. R.

Six kilometers south of the city of Abdishansk, Fergana region, U. S. S. R., a wildcat located at Krelinsk-Fergana is reported in La Revue Petrolifere to have found oil sand at 71 meters (233 feet). The wildcat is close to a government railroad.

NEFTEDAG FIELD

Shut down with all storage full; pipe line is planned

Drilling in Neftedag field, U. S. S. R., has been shut down due to lack of storage and transportation facilities, according to information received June 24. Accumulated stocks of crude in the field total about 8000 tons.

It is stated that material for a pipe line from Neftedag to a refinery has been purchased but that it will be September or October before the line outlet for the field's production can be completed.

Professor I. M. Goubkin, president-elect of the Seventeenth International Petroleum Congress to be held in Moscow in 1937, classed the field at discovery time as being one of the richest in Russia. Its present daily potential of 3000 to 4000 tons per day constitutes about half of the production of Grosneft. Ultimate recovery of the field is estimated at eight million tons by Professor Goubkin.

AUSTRIA

Output shows important rise in first quarter

From a market standpoint, production of crude petroleum in Austria is insignificant, but it is growing rapidly and is of great importance to the Austrians as a step toward freedom from

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a most unsatisfactory dependence upon outside countries for petroleum products.

Production of crude in Austria for the first quarter of this year is estimated at 2700 metric tons by Leys A. France of Vienna. This indicates a most substantial increase, relatively when compared with the 5000 tons produced in 1934. Production in 1933 was only 856 tons; 1932 production, only 120 metric tons.

MANCHURIAN EDICT

Forces American-British companies to withdraw

Two American oil Companies and one British oil company are continuing their plans of withdrawal from the Manchurian area following the institution of a state petroleum monopoly there.

Reports from Japan state that there is a growing indisposition on the part of Japanese private capital to invest in Manchuria because of the newly adopted policy of state's control of business. During the past seven months silver equivalent to 35,000,000 yen has flowed out of the country.

•

ARGENTINE

Severe criticism of the Argentine petroleum law under consideration by both houses of the government's legislative body is found in a recent editorial of La Prensa of Buenos Aires.

The periodical claims that the law will satisfy neither government nor private enterprise; that it is not satisfactory to Yacimientos Petroliferos Fiscales because it does not give that organization complete supremacy over all provincial and national mining authorities; that it does not satisfy private enterprises because of the heavy charges and restrictions it imposes on private enterprise.

La Prensa also claims the law does not satisfy national aspirations for the development of the oil industry of the Argentine and that it was formulated, not by men trained and competent in matters pertaining to the oil industry, but by politicians.

According to La Prensa, as a result of intensive propaganda the people have been led to believe that the discovery of oil in Bariloche, Nirihuan, Baguales, San Cristobal and other spots would be sources of miraculous riches. The periodical offers this condition as responsible for Article 398 of the law ordering that the zones forbidden to private capital shall remain reserved for a period of 10 years or more, except for special executive edict.

"This law presents, finally, the mistake of leaving to executive power the care of arranging by decrees many points left in suspense," La Prensa states.

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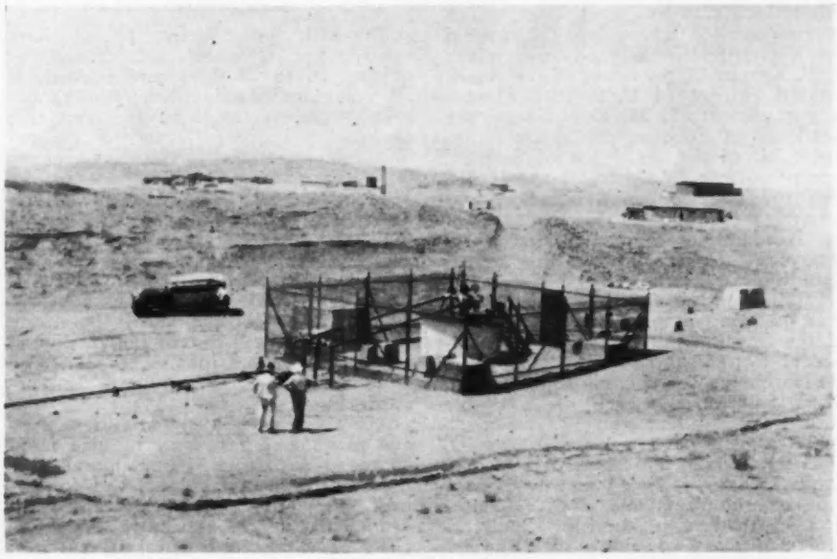
SHELL TANKERS

Orders for three new oil tankers recently were placed with Germany shipyards by Rhenania Ossag Mineralollverke, A. G. (Shell subsidiary). Two of the tankers will fall into the 12,000 ton class. Size of the third was not announced.

According to figures recently released by the Nazi governments statistical bureau, Shell interests in Germany have reached a point where they now dominate the retail market of petroleum products.



A producing well in Iraq

Contamination of Cores

[*Continued from page 30*]

the core in the core barrel after it is cut by the core bit, a number of samples were separated into two groups. One group was selected from points within one foot of the trimmer shoe, and the other group at more distant points corresponding to longer periods of soaking under water. The average oil saturation of each of these groups was found to be 42 percent and this indicates that the greater part of the contamination and flushing takes place at the instant the drill cuts through the rock, and that all points in the core barrel should be equally well suited for sampling for oil content tests.

In the top foot of single-tube rotary-type core barrels, however, there is a strong flushing action sometimes due to the vertical fluid pressure drop. Sands with high permeability across the bedding planes are likely to be washed sufficiently at this point to lower considerably the original oil and connate water content of the sample. This flushing action is limited, however, and a large portion of the original oil and water is left in most parts of the core for subsequent laboratory estimation. Stanley Herold, in a recent issue of THE OIL WEEKLY, stated that the natural water drive in East Texas will remove all the oil from the sand. Many field and laboratory flooding experiments carried out by the writer have failed to show that all the oil was removed in any observed instance; but there is a definite relation which exists between the sand, oil and water, causing a large amount of oil to be left in the reservoir even after the most intensive water flooding has been applied. The total amount of fluids which remain undisturbed in a consolidated sand, range from 20 to 80 percent of the pore volume, and less in some unconsolidated reservoirs. Although completely water flushed cores are not often recovered in coring, the results of tests on such samples should always show the presence of oil if it was originally present.

Coring problems of great interest remain to be solved. Formation pressures exceeding 20 pounds per square inch are seldom present to complicate water flooding appraisal work, but formations with rock pressures in excess of four thousand pounds per square inch are being cored almost daily. In such cases large portions of the important physical data escape observation, because the fluids leave the core while the barrel is being lifted to the surface. Gas reserves as well as oil reserves can be more carefully estimated if the connate interstitial water is known. As stated before, cores are being tested to yield information on underground conditions; therefore, when the underground conditions differ materially from laboratory conditions it becomes necessary to recognize this fact and to plan research that will correct the situation.

The presence of water in all oil saturated sands is now a known fact and knowledge of its occurrence is necessary in studies related to the problem of drilling water penetration. The amount of contamination by drilling water is likely to be found relatively small in most cases but can be estimated quite readily by dissolving some simple chemical in the drilling fluid whose presence in the core can be quantitatively determined.

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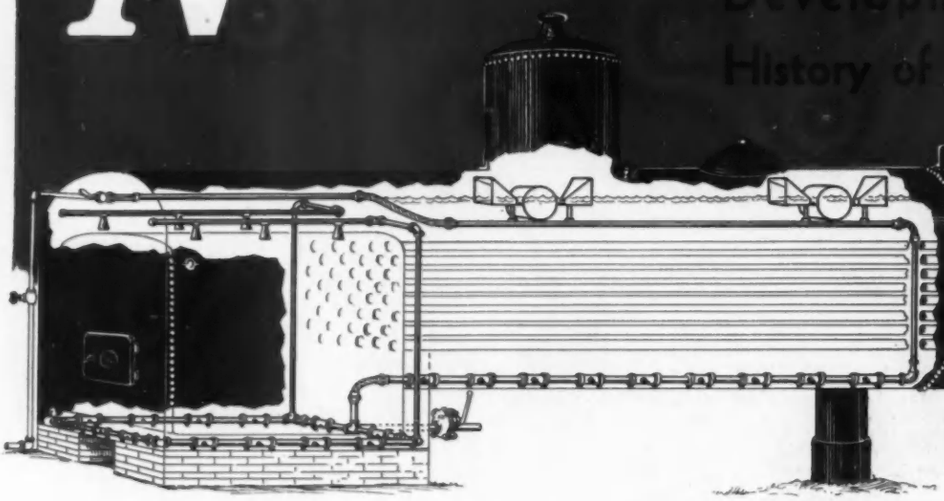

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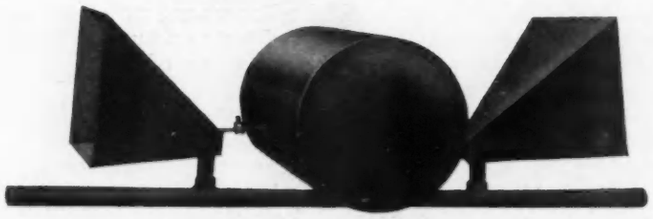
The patented design for this boiler cleaner is extremely simple, installation is easy, and operation is fool-proof. The unit pays for itself quickly in eliminating costly shutdowns, in materially lowering boiler maintenance costs, and in reduction of fuel consumption. Each installation is permanent, and carries a 3-year guarantee.



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Market Situation

PRICES ARE SLIGHTLY LOWER IN SOME DISTRICTS IN WEEK

FROM a national standpoint, the oil industry's markets lost some ground last week, and as the week closed, the prospects appeared to be that the situation would remain about unchanged for some time. Various disturbing factors threatened, in fact, to bring further weakening of the markets.

East Texas hot oil output was cause for some concern, having shown a gradual increase for the past two weeks or so. But the most definitely weak spot in the markets is California, where difficulty has been experienced in keeping crude production under effective control, following voiding of the N.R.A. and the oil code.

California's crude output was brought down sharply last week, but it had been more than normally excessive earlier in the month. The decline was especially welcome, as there had been talk to the effect crude prices were in serious danger of being reduced.

Gasoline prices, wholesale and retail, have been depressed in Southern California since termination of the code-sponsored marketing agreements, and the overproduction of crude during June was progressively aggravating the situation. With the voiding of N.R.A., it was necessary for California producers to revert to the voluntary proration of pre-code days, as the state does not have a state oil conservation program.

Pennsylvania Crude Cut

At the middle of last week Pennsylvania crude was reduced 15 cents a barrel. A similar cut had occurred about six weeks previously. These reductions have not been regarded, however, as having any great significance from the national standpoint.

In the Mid-Continent, crude prices appeared relatively firm, although slightly increased hot oil production in East Texas was a disturbing factor.

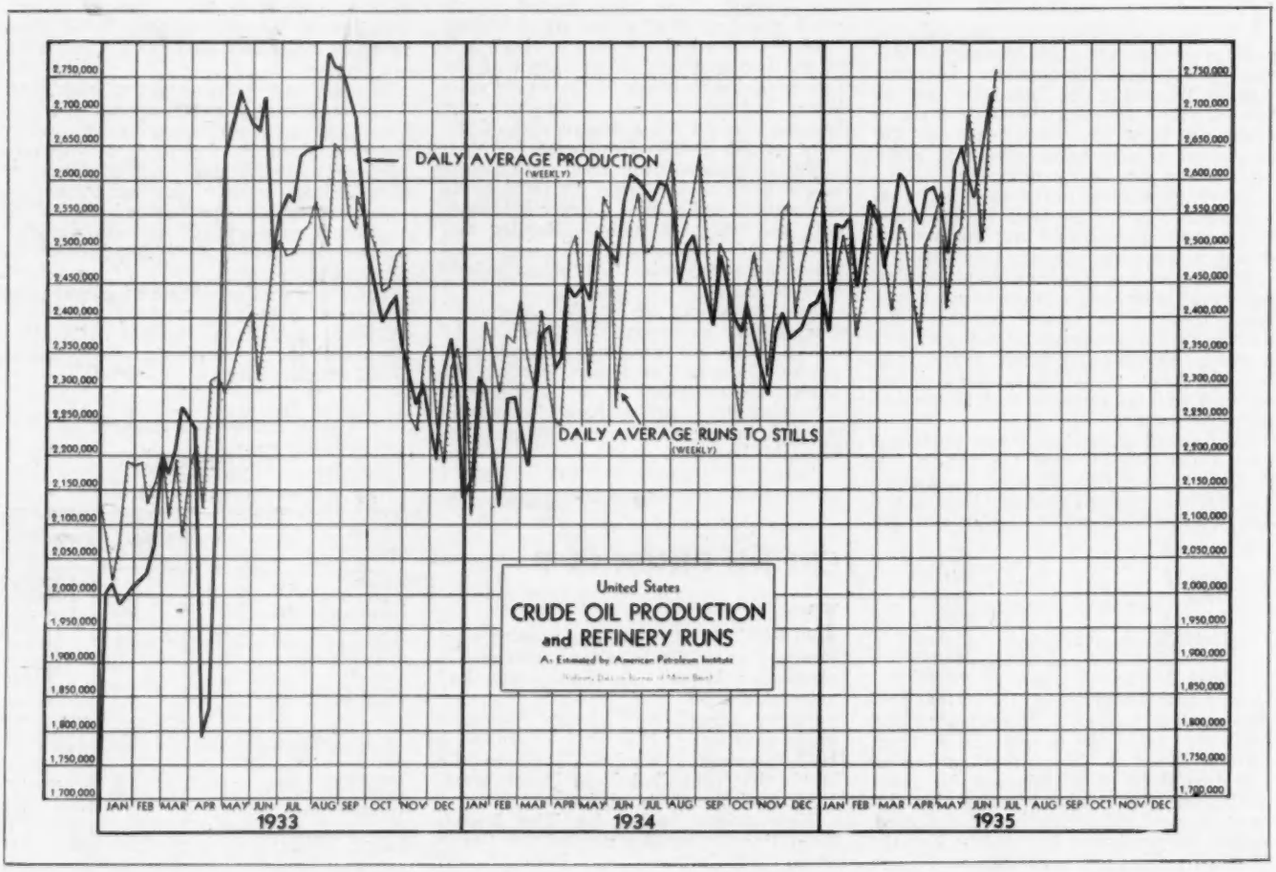
Outside of California, product prices, wholesale and retail, have continued generally firm. In the Mid-Continent, gasoline tank car prices have remained unchanged for the past two weeks. Service station postings, also have been mostly unchanged, meanwhile, everywhere east of California.

Kerosene prices have continued on the downward trend, which is attributed largely to the seasonal influence.

The Mid-Continent tank car market for gasoline seemed last week to stand about steady, with some increase in buying, due to better road conditions and to the fact Congress has extended the gasoline tax. Previously, brokers appeared to be refraining from buying for stocks, thinking the federal gasoline tax might be dropped. This was possible on their part, due to delayed spring weather, and to road conditions throughout a large portion of the Group Three marketing territory.

Continental Oil Company announced that on July 1 it would raise all sub-normal retail gasoline prices at its stations, to make third grade 16 cents, regular grade 18 cents, and premium grade 20 cents. Tank wagon prices were placed at 14, 16, and 18 cents, respectively, thereby establishing a margin of two cents. The action was considered a constructive move, and if followed by other marketers, would soon result in a strong, uniform market in the Midwestern region involved.

In the Group Three (Oklahoma) region,



third grade gasoline (below 62 octane) at the refineries was strong last week at 4¾ cents a gallon, with some marketers leaning toward 4⅞ cents. The other grades of gasoline had shown no marked changes. Standard grade U. S. motor gasoline, 62-67 octane, was priced around 5⅛ cents a gallon, and premium grade, 68-70 octane, at 5⅜ cents.

In North Texas and East Texas, the gasoline tank car prices have not changed since two weeks ago, when they dropped an eighth cent from the year's peak levels. The prevailing prices in North Texas for third, standard, and premium grades are 4½, 5, and 5½ cents a gallon, respectively. In East Texas the prices are 4½, 4⅞, and 5¼ cents.

Wholesale kerosene prices have been on the downward trend for three weeks. Last week the price was 3½ cents a gallon in the Oklahoma and North Texas markets, that quotation being in each instance an eighth cent lower than a week previously. In East Texas, meanwhile, the price had declined a quarter cent, going to 3⅛ cents.

Hot oil output in East Texas was indicated last week to be averaging around 30,000 barrels daily, compared with about 25,000 barrels per day the previous week.

CALIFORNIA MARKET

Condition bad with crude output out of proportion

THE market situation in California the past week was as nearly completely demoralized as could be possible. The production of crude oil has been out of bounds and a constant threat of a crude price cut hung over the heads of the producers, no one being willing to guess what would happen the next day.

Developments late in the week indicated a general clearing up, and it was indicated production would not further increase, and a price cut may be escaped.

Word went out that if crude production was not materially reduced, not only would the price be reduced, but that some purchasing companies would not even post a price. Purchase of crude would then be on a basis of the going price in the field. One large company took this action the previous week.

This situation brought many producers to a realization of what they might expect, and from June 21 total production for the state started to drop. Here is the daily production figures starting with the peak:

	Barrels
June 19	590,070
June 20	590,492
June 21	569,492
June 22	553,065
June 23	544,148
June 24	532,990

An estimate was made June 26 that production would continue to drop each day until the end of the month. If this prediction proves to be correct production last two days of month will be about 500,000 barrels, or slightly under that figure. And if this reduction is followed, and if the producers hew to the line the first part of July, it is indicated there will be no price cut, and it is further indicated the gasoline cut price situation will gradually clear up.

Following out this line of reasoning, it is indicated the daily average production of crude in California in June will run close to 560,000 barrels, which will represent an overproduction of close to 1,400,000 barrels for the month.

During May, California produced 15,342,221 barrels, and during that month stocks of all products were reduced 2,292,965 barrels. Of this total reduction, 2,151,692 barrels was refinable crude. Gasoline stocks in May were reduced 426,252 barrels. Heavy crude including fuel oil stocks were up 73,571 barrels.

Since it has become known that purchasing companies are willing to "freeze" present stocks of all products, and since it is generally understood these companies are willing to see the voluntary allowable fixed at 550,000 barrels a day in July, there is a feeling the producers will, close to 100 percent, abide by their quotas.

At least a dozen small refineries in Los Angeles Basin have closed down their plants, rather than run at a loss. Some crude is being sold at less than the posted price, but the amount is small, as most of the producers are refusing offers less than the posted price. Several other plants have considerably reduced their throughput.

The gasoline price war has shown a slight improvement. Most of the retailers at Bakersfield, Fresno, Sacramento, Santa Barbara and San Diego have restored prices to old levels, but the change for the better in Los Angeles and Orange Counties is slight. One company reduced its retail price on third grade to 11.5 cents June 25, but asked retailers to share half of the two-cent cut. Up to night of the following day no other of the larger marketers had met the cut. The price war has not reached the northern part of the state, or the Pacific Northwest.

Major companies are holding to a tank wagon price of 10.5 cents for third grade in Southern California. Larger independents are one cent under. Bootleg and smaller independents are delivering gasoline at 8.5 to 9.5 cents. All prices include four cents tax.

Tank car prices are largely a matter of trading, but quotations are listed at 4.5 to 5.5 cents on gasoline, according to grade. Gasoline for export is about 4.5 cents. These figures do not include tax.

Fuel oil prices are unchanged, unless in isolated instances where a refiner has filled his storage.

●

CRUDE PRICE CUT

EFFECTIVE June 26, postings on Pennsylvania crude were reduced 15 cents per barrel. A similar cut had been made on May 16. The two reductions cancel two 15-cent increases made January 4, 1935, and February 4, 1935, putting quotations back to the levels that prevailed from December 6, 1934, to January 4, 1935.

New prices posted by The Joseph Seep Purchasing Agency of the South Penn Oil Company, on Pennsylvania grade oil, are as follows: In Southwest Pennsylvania Pipe Line, $1.77 a barrel; in Eureka Pipe Line Company system, $1.72; and in Buckeye Pipe Line Company system, $1.62.

The new quotation of Tide-Water Pipe Company, Ltd., is $2.05 per barrel for Bradford district and Allegany district oil in Bradford Transit Company lines.

EAST TEXAS PRICES

Slump due to increased local refining activity

EAST TEXAS refiners engaged in processing contraband crude are expanding their operations. Mid-week check on all plants revealed that 30 are active, including five estimated not bothering to obtain approved tenders from the state.

This gain in crude throughput has been followed by price cutting on refined products restricted to tank truck deliveries within the state through refusal of railroads to handle products lacking approved tenders. Third-grade gasoline prices range from 3¼ to 3½ cents per gallon on tank truck sales, and threatens to sag to lower levels as the plant owners step up their charges to stills. The minority group of East Texas plants now adhering to the rigid regulations of the federal tender board are immune from this breakdown of gasoline prices through majors buying up their gasoline at 4⅝ cents per gallon. Gasoline purchases by majors during June promise to exceed 1100 cars, a new record for the current year.

The railroad commission and its tender board are being charged by law-abiding East Texas operators with approving many applications for tenders not conforming with the state regulations. This alleged laxness may be due to undue eagerness to rid the field of stocks of crude and semi-refined products accumulated some months previously in earthen pits and steel tanks.

Estimates on the volume of illegal production for the past week ranged from 25,000 to 30,000 barrels daily, with East Texas plants processing approximately 57,900 barrels daily.

East Texas Tank Car Shipments

Week Ending June 23, 1935

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	591	4,770,948
Fuel Oil	192	1,795,006
Casinghead Gasoline	180	1,542,334
Kerosene	56	443,897
Distillate	56	451,501
Topped Crude	29	285,666
Gas Oil	35	282,461
Residuum	8	64,993
Naphtha	2	16,120
Total	1,149	9,652,926
Total Previous Week	1,207	10,159,375
Interstate	566	.....
Coastwise	327	.....
Intrastate	256	.....
Total	1,149	.....

CRUDE PRODUCTION

United States drops off 41,675 barrels last week

UNITED STATES crude oil production last week (ending June 29) was 41,675 barrels per day lower than in the previous week, but still 23,975 barrels daily above the amount recommended for June by the federal government. The new production rate was 2,674,975 barrels daily.

The reduction from the previous week's rate was almost wholly the result of a sharp decline for California. That state, in fact, offset gains for some other states, including Oklahoma and Texas, in addition to bringing the national trend downward sharply.

The California decline was a welcomed development, as the state had been overproducing earlier in the month to such extent as to cause much anxiety, nationally as well as in that region. Dropping to 525,000 barrels daily, from 577,000 barrels daily the week before, California output was brought fairly close to the state's allocation, which for June was 512,700 barrels daily. Since the recent voiding of NRA and the oil code, California producers have been obliged to carry out a voluntary proration plan, as there is no state enforced oil conservation program there.

Oklahoma production last week rose about 4000 barrels, to 521,175 barrels daily, which was about 7000 barrels per day more than the June allocation to the state.

Texas output rose about 6000 barrels, to 1,057,400 barrels daily, which was about 2000 barrels daily less than the federal allocation.

Kansas production declined about 800 barrels, averaging 147,500 barrels daily, or about 7000 barrels per day less than allowed.

Louisiana showed a 1200-barrel increase in averaging 138,300 barrels daily, the new figure being about 6000 barrels above the state quota.

The above figures do not include estimates of surreptitious production. Such output, chiefly in East Texas, was indicated last week to be averaging around 30,000 barrels per day, compared with about 25,000 barrels daily the week before.

CONNALLY BILL

Sherman, Texas. — Federal District Judge Randolph Bryant took under advisement June 25, a case in which a group of East Texas refiners attack the constitutionality of the Connally hot oil shipping act. The judge asked for written briefs, and indicated he would not pass on the case for some time.

In the case, Utah Refining Company and five other East Texas refiners, represented by F. W. Fischer, Tyler attorney, ask that the federal tender board be restrained from enforcing the provisions of the act against them.

An important contention of complainants, presumably strengthened by the Supreme Court decisions in the Panama-Amazon and Schechter case decisions, is that Congress exceeded its constitutional limitations in delegat-

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING June 29	June 22
TEXAS—		
Texas Panhandle	60,200	58,600
North Texas	59,100	59,200
West Central Texas	25,500	25,600
West Texas	154,200	154,100
East Central Texas	49,600	50,100
*East Texas Field	466,400	462,800
South Texas	59,500	59,600
Texas Gulf Coast	182,900	181,600
*Total Texas	1,057,400	1,051,600
OKLAHOMA—		
Oklahoma City	157,225	149,125
Seminole Area	129,225	132,150
Tatums	4,975	4,975
Lucien	11,925	11,900
Fitts	20,125	18,450
Others	197,700	200,425
Total Oklahoma	521,175	517,025
KANSAS—		
Ritz-Canton	7,350	7,500
Voshell	4,075	4,850
Nikkel-Hollow	7,375	7,425
Sedgwick	8,725	8,875
Burrton-Haury	23,375	23,200
Others	96,600	96,475
Total Kansas	147,500	148,325
LOUISIANA—		
North Louisiana	22,500	22,500
Louisiana Gulf Coast	115,800	114,600
Total Louisiana	138,300	137,100
ARKANSAS	30,900	30,800
CALIFORNIA—		
Long Beach	72,500	74,500
Santa Fe Springs	36,000	39,500
Huntington Beach	38,000	45,500
Dominguez	20,000	21,000
Inglewood	11,000	11,500
Ventura Avenue	29,500	38,000
Seal Beach	7,000	8,000
Midway-Sunset	50,500	55,000
Elwood	13,500	13,000
Kettleman Hills	62,500	73,500
Mountain View	20,000	23,000
Playa del Rey	22,000	24,000
Others	142,500	151,000
Total California	525,000	577,000
MOUNTAIN STATES—		
Wyoming	38,900	37,600
Montana	10,300	10,300
Colorado	4,100	4,100
Total Rocky Mountain States	53,300	52,000
NEW MEXICO	53,200	52,900
EASTERN STATES	105,100	105,800
MICHIGAN	43,100	43,600
*Total United States	2,674,975	2,716,650
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	30,000	25,000
Grand Total, including surreptitious production	2,704,975	2,741,650

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks; and Cracked Gasoline Production, Week Ended June 22, 1935

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term.. in Trans. & Pipe Lines	Total at Refys., Term., etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	612	612	100.0	482	78.8	5,885	10,289	16,174	802	255	11,174	534	469	87.8	94
Appalachian	154	146	94.8	119	81.5	1,284	925	2,209	311	145	777	79	78	98.7	26
Ind., Ill., Ky	442	424	95.9	385	90.8	5,767	3,291	9,058	817	55	4,501	349	338	96.8	121
Okla., Kans., Mo.	453	384	84.8	281	73.2	2,819	2,106	4,925	694	520	4,370	256	228	89.1	63
Inland Texas	330	160	48.5	102	63.8	996	131	1,127	252	1,245	2,000	148	105	70.9	23
Texas Gulf	617	595	96.4	566	95.1	4,817	236	5,053	1,868	290	9,944	399	393	98.5	112
Louisiana Gulf	169	163	96.4	113	69.3	699	469	1,168	242	.....	3,717	77	74	96.1	16
North La.—Ark.	80	72	90.0	47	65.3	161	101	262	33	125	349	46	44	95.7	7
Rocky Mountain	97	60	61.9	49	81.7	928	.....	928	109	55	817	46	39	84.8	14
California	852	789	92.6	462	58.6	7,479	1,742	9,221	1,057	3,010	64,044	274	274	100.0	58
TOTALS WEEK: June 22, 1935	3,806	3,405	89.5	2,606	76.5	30,835	19,290	50,125	6,185	5,700	101,693	2,208	2,042	92.5	534
June 15, 1935	3,806	3,405	89.5	2,541	74.6	31,674	19,879	51,553	6,248	5,610	100,162	2,208	2,042	92.5	522

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week June 22, 1935 compared with June 1934 Bureau figures.

Estimate B. of M. Basis June 22, 1935	2,755		585
Estimate B. of M. Basis June 15, 1935	2,690		570
U. S. B. of M. June 1934: Daily Average Crude Runs	2,535	U. S. B. of M. June 1934: Daily Average Cracked Prod.	489

(a) Amount of Unfinished Gasoline contained in Naphtha Distillates.
(b) Estimated. Includes Unblended Natural Gasoline at refineries and plants; also Blended Motor Fuel at plants.

ing to the oil producing states power to exercise control over interstate commerce. Under the Connally act, it is asserted, the states determine how much oil may go into interstate commerce, whereas the Constitution reserves such authority strictly to Congress. Plaintiffs also contend that the true purpose of Congress in passing the law was to bolster oil prices, although the asserted purpose of the act is one of conservation.

On the other hand, an apparently strong contention for the tender board was brought up when Judge Bryant asked why contraband oil should have higher standing in interstate commerce than a stolen automobile. Attorney Fischer's reply was that oil is not a harmful or vicious commodity, and consequently is not subject to restrictive regulation in interstate commerce.

Comparison of Permits Granted for New Wells

STATE—	Week Ending June 22	Total this Mo.	Total this Year	Total this Date Last Year	1934 Year Total
Arkansas	..	1	16	26	100
California	18	74	273	252	629
Louisiana	16	74	393	400	799
Kansas	18	104	481	472	1,015
Michigan	7	48	238	231	460
Oklahoma	43	209	1,074	1,042	2,045
Texas	267	1,186	5,251	5,091	10,550
Total	369	1,696	7,726	7,514	15,598

SAMFORDYCE DEAL

Ralph Fair buys interest in Kingwood properties

San Antonio.—Six oil wells, one gasser and 152.5 acres of leases in the Samfordyce field, Hidalgo County, were involved in a deal between Kingwood Oil Company and Ralph E. Fair, Inc. The Fair interests purchased 51 percent interest in the properties, together with an interest in Woodfields Pipe Line Company, which has a gathering system, loading racks and storage serving approximately 40 producers. Rupert Cox owns 50 percent interest in the pipe line concern.

The cash consideration in the deal is said to be $120,000.00 and an additional obligation has been assumed which will bring about the immediate drilling of six wells on the Kingwoods leases. First location has been made on Tract 274, Porcion 39, a short distance from the discovery well.

The field was discovered on September 20, 1934, by Otto Woods and Ben C. King, who later formed Kingwood Oil Company. Since the discovery there have been 70 oil producers completed in the field, all flowing.

The purchase of this interest in the oil production in the Samfordyce field is said to be another step closer to the construction of the proposed pipe line from the field to deep water near Brownsville by the Fair interests. Rupert Cox and Frank Murchison are also said to be interested in the proposed trunk line and likely will be associated with Fair et al in the construction of it.

Fair and associates several months ago acquired the controlling interest in the Rado Refinery at McAllen and is to materially enlarge the plant. Fair et al further plan to construct a cracking plant on deep water on the Brownsville-Port Isabel Channel. Also, a pipe line will be built from Sun Oil Company's properties in the Cuevitas field, Starr County, to Rio Grande City, a distance of more than 30 miles.

Efforts to establish deeper production on the east flank of the Samfordyce field failed. K. D. Harrison & D. D. Oil Company's Mrs. Lula George 2, Tract 13, Porcion 41, tested at 2961-67 feet, showing six joints of oil and salt water in nine minutes, cored sandy shale at 3031-35 feet with light odor and bottomed just below 3100 feet. It has been plugged back to the regular 2700-foot sand and is being completed.

One Hidalgo County wildcat is holding more than ordinary attention. It is Bluff Petroleum Company's Knowles 1, Share 14, Porcion 49, three miles southwest of Mission. It is coring in sand at 3570 feet. The well has had a series of sand, one at 585 feet showing gas, another 2730-37 feet, showing gas; another 3153-60 feet showing gas; another 3325-35 feet, carrying salt water and gas; and another at 3457-69 feet, with gas and oil.

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CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to June 28, 1935)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, Wk'lr	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and S.W. Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.85			9-29-33
Saxet	*.85			9-29-33
Mirando	*.80			9-29-33
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
El Dorado East Field and Smackover	*.70			9-29-33
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
Iowa, Cameron Mds.	Below 20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33
Elk Basin	*1.17			9-29-33

*All gravities—flat rate.
†Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Grass Creek (Light)	*$1.17			9-29-33
Big Muddy	*1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.35			9-29-33
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*.45			8-25-33
Pondera	*.65			8-25-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.15			2- 1-35
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.13			5-22-35
California				
Signal Hill	14— .65	1¢	16— .66	9- 6-33
	17— .69	2¢	22— .84	9- 6-33
	23— .88	3¢	30— 1.09	9- 6-33
Seal B., Alamitos Hts.	19— .65	3¢	20— .68	9- 6-33
	21— .72	4¢	22— .76	9- 6-33
	23— .81	4¢	26— .93	9- 6-33
	27— .98	4¢	30— 1.10	9- 6-33
Huntington Beach	14— .65	4¢	15— .69	9- 6-33
	16— .72	3¢	19— .81	9- 6-33
	20— .83	3¢	28— 1.07	9- 6-33
	29— 1.09	3¢	30— 1.12	9- 6-33
Inglewood	14— .65	4¢	16— .73	9- 6-33
	17— .76	4¢	18— .80	9- 6-33
	19— .82	4¢	20— .87	9- 6-33
	21— .90	4¢	22— .94	9- 6-33
	23— .97	4¢	24— 1.01	9- 6-33
Playa del Rey	14— .65	1¢	15— .66	9- 6-33
	16— .69	4¢	17— .73	9- 6-33
	18— .76	4¢	19— .80	9- 6-33
	20— .83	4¢	21— .87	9- 6-33
	22— .90	4¢	23— .94	9- 6-33
	24— .97	3¢	25— 1.00	9- 6-33
			26— 1.04	9- 6-33
Olinda-Brea Canyon	14— .65	4¢	16— .73	9- 6-33
	17— .76	3¢	28— 1.10	9- 6-33
Athens-Rosecrans Domingues	23— .83	3¢	24— .86	9- 6-33
	25— .90	4¢	26— .94	9- 6-33
	27— .97	3¢	29— 1.04	9- 6-33
	30— 1.08	4¢	31— 1.12	9- 6-33
			32— 1.15	9- 6-33
Elwood (fob ship)	33— 1.03	3¢	37— 1.15	9- 6-33
Torrance	14— .65	1¢	15— .66	9- 6-33
	16— .69	3¢	20— .81	9- 6-33
	21— .83	3¢	26— .98	9- 6-33

*All gravities—flat rate.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Richfield	15—$ .65	2¢	16—$ .67	9- 6-33
	17— .70	4¢	20— .82	9- 6-33
	21— .85	4¢	22— .89	9- 6-33
	23— .93	4¢	24— .97	9- 6-33
	25— 1.00	4¢	27— 1.08	9- 6-33
	28— 1.11	4¢	29— 1.15	9- 6-33
Whittier-LaHabra	15— .65	3¢	18— .74	9- 6-33
	19— .78	3¢	24— .93	9- 6-33
Montebello	19— .65	1¢	20— .66	9- 6-33
	21— .69	3¢	22— .72	9- 6-33
	23— .76	4¢	24— .80	9- 6-33
	25— .85	4¢	26— .89	9- 6-33
Coyote Hills	16— .65	3¢	19— .74	9- 6-33
	20— .78	3¢	29— 1.05	9- 6-33
	30— 1.09	3¢	34— 1.21	9- 6-33
Santa Fe Springs	21— .72	4¢	22— .76	9- 6-33
	23— .79	4¢	25— .87	9- 6-33
	26— .90	4¢	28— .98	9- 6-33
	29— 1.01	4¢	30— 1.05	9- 6-33
	31— 1.08	4¢	33— 1.16	9- 6-33
	34— 1.19	4¢	35— 1.23	9- 6-33
	36— 1.26	4¢	38— 1.34	9- 6-33
New Hall, McKittrick, Kern River	14— .57		19— .57	9- 6-33
Midway-Sunset, Elk Hills, Buena Vista Hills	17— .57	4¢	18— .61	9- 6-33
	19— .64	3¢	22— .73	9- 6-33
	23— .77	4¢	33— 1.17	9- 6-33
Lost Hills	17— .57	4¢	21— .73	9- 6-33
	22— .76	3¢	30— 1.00	9- 6-33
Coalinga	17— .57	1¢	18— .58	9- 6-33
	19— .62	3¢	21— .68	9- 6-33
	22— .72	3¢	25— .81	9- 6-33
Wheeler Ridge	17— .57	1¢	18— .58	9- 6-33
	19— .61	3¢	25— .79	9- 6-33
Kettleman Hills	33— .93	3¢	39— 1.11	9- 2-33
Pennsylvania				
Bradford	*2.05			6-26-35
Sw Pa. Pipe Line	*1.77			6-26-35
Eureka Pipe Line	*1.72			6-26-35
Buckeye Pipe Line	*1.62			6-26-35
Corning Grade	*1.32			10- 2-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

*All gravities—flat rate.

Summary of Wells Completed in the United States

Week Ending June 22, 1935

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1935	Total Completions this date 1934
Alabama	...	...	...	...	.....	3	1
Arkansas	1	...	...	1	.....	82	33
California	12	10	2	....	12,275	375	181
Colorado	1	1	...	...	1,440	6	7
Illinois	...	...	...	...	.....	8	8
Indiana	...	...	...	...	.....	92	70
Kansas	17	10	2	5	3,810	657	402
Kentucky	...	...	...	...	.....	73	61
Louisiana	12	7	1	4	6,735	357	328
Michigan	13	5	2	6	1,725	211	210
Mississippi	...	...	...	...	.....	12	14
Montana	4	4	...	...	980	51	59
New Mexico	8	5	...	3	11,720	133	44
New York	...	...	...	...	.....	...	4
Ohio	40	13	16	11	125	659	449
Oklahoma	35	22	1	12	53,230	1,116	941
Pennsylvania	1	...	...	1	.....	70	160
Texas	248	183	2	63	772,530	5,663	4,553
Utah	...	...	...	...	.....	...	3
West Virginia	5	3	1	1	5	240	212
Wyoming	2	2	...	...	335	28	20
Total this week	399	265	27	107	864,910	9,837	7,767
Total last week	475	317	32	126	821,615	9,438	....
Total this year	9,837	6,470	836	2,531	18,399,820	....	....

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
March 5, 1933	.....	.....	Cut 24.
May 2, 1933	.....	Cut 19.	.....
May 9, 1933	Cut 20	.....	.....
May 22, 1933	Up 10.	.....	.....
June 19, 1933	Up 10.	Up 19.	.....
June 26, 1933	Up 10.	.....	Up 9-12
July 6, 1933	Up 13.	Up 10.	.....
July 17, 1933	Up 15.	.....	.....
July 28, 1933	Up 15.	.....	.....
August 11, 1933	Up 10.	.....	.....
August 24, 1933	.....	Up 10.	.....
August 30, 1933	Up 15.	.....	.....
September 6, 1933	Up 10.	Up 10.	Up 15.
September 8, 1933	.....	Up 15.	.....
May 1, 1934	Up 10.	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25.	.....	.....
January 4, 1935	Up 15.	.....	.....
February 4, 1935	Up 15.	.....	.....
May 16, 1935	Cut 15.	.....	.....
June 26, 1935	Cut 15.	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Three percent of gross value at well and ½-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

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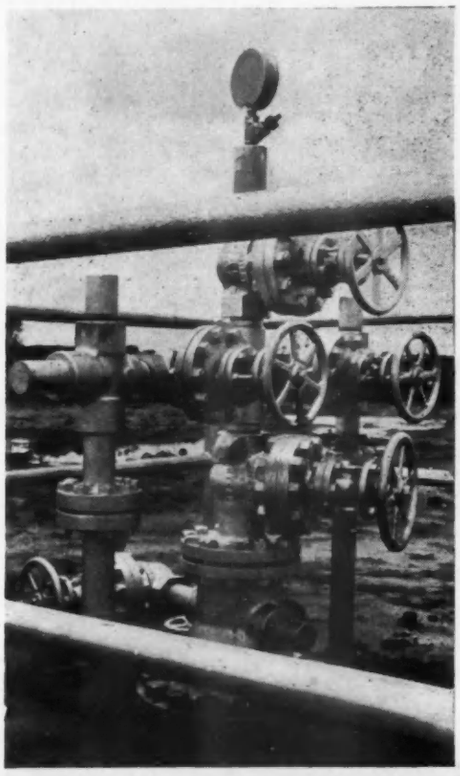

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give you practically 100% salvage from today's operations because they are designed for the pressures of tomorrow. Wells are not endangered through the use of weak connections between individually strong parts as with uncoordinated systems.

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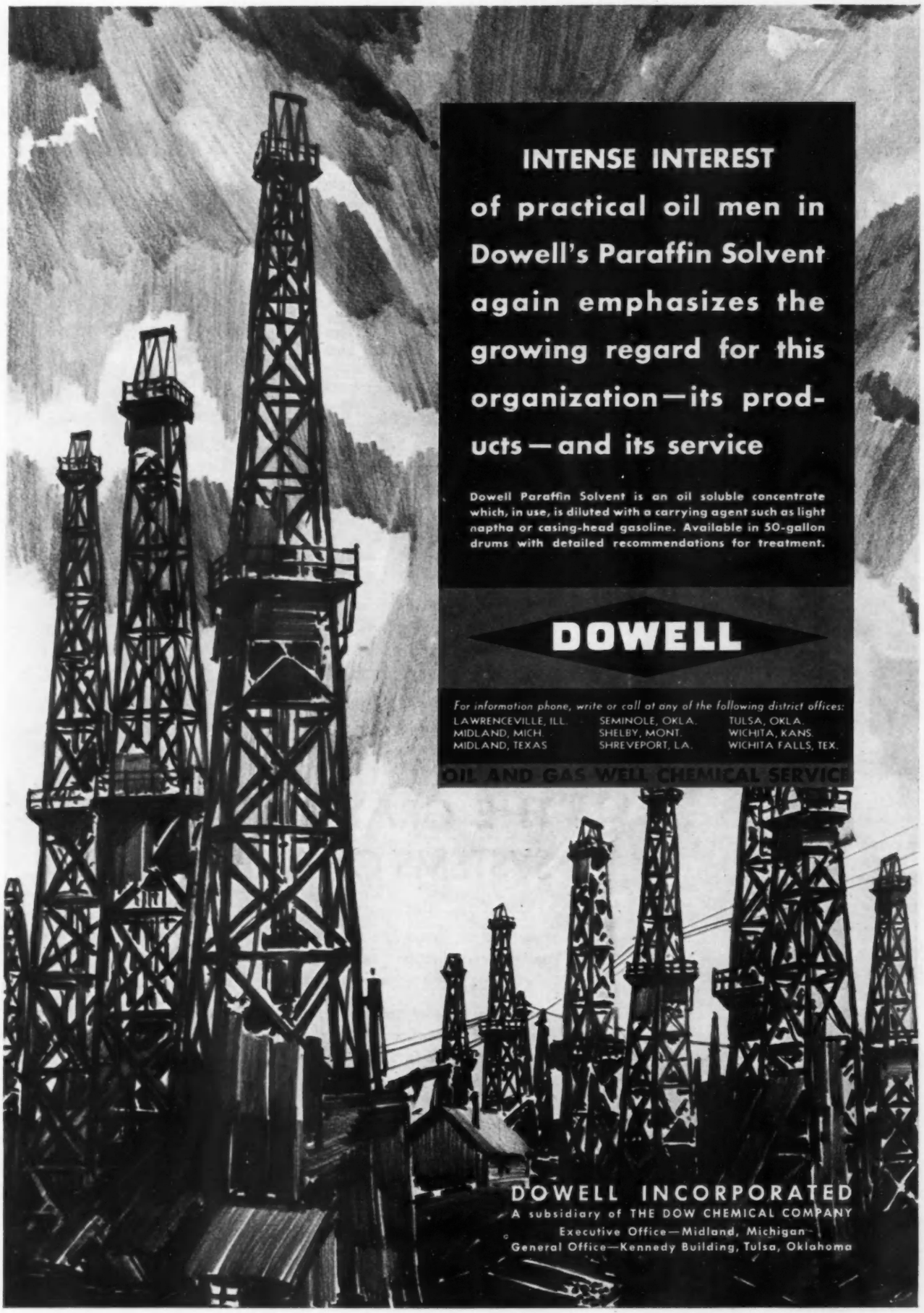
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Bright Prospects

[*Continued from page 12*]

first six months of 1935 than in that period last year. The gains varied widely, however, from the general average increase of 19.2 percent for the country as a whole.

New Mexico showed the greatest expansion of drilling among all the states. The half-year, 1935, brought nearly four times as many well completions as the similar period of 1934, the number rising to 136 from 38. Several new fields have been discovered in the state lately, and the drilling in them has been substantial, while the successes there have naturally stimulated wildcatting in adjacent areas.

Arkansas is this year's runner-up in drilling expansion, having had about 2½ times as many completions as last year to the same time, the number increasing to 84 from 32.

California showed the third largest drilling increase, with a gain of nearly 100 percent, as completions have numbered 443, compared with 255 in last year's first six months.

The fourth largest gain in drilling has been that of Kansas, an increase of about 50 percent. The state this year has had 604 completions, compared with 409 in the first six months last year.

The Eastern States conformed closely with the national average, having had approximately 20 percent more completions in 1935 than in 1934, as the number has been 1136, compared with 958 last year through June.

Texas has fallen slightly under the national average, as this year's completions have numbered 5513, compared with 4761 in the corresponding period last year, an increase of about 16 percent.

Oklahoma has had an even smaller expansion of drilling, a gain of only about 10 percent having been involved, as this year's completions have numbered 1057, compared with 921 for the same period last year.

Louisiana drilling has been the same this year as last, 352 completions having been reported for the first six months of each year.

Areas that have had less drilling this year than last include Michigan, which declined to 191 completions from 228 in the first six months last year; the Rocky Mountain states (excluding New Mexico), which furnished 80 completions, compared with 88; and the Southeastern (or eastern Gulf) states, reporting 10 completions, against 17 in last year's first half.

Motor Fuel Stocks

(American Petroleum Institute figures, as shown in weekly reports)

DATE	Motor Fuels Stocks, Bbls.
September 9, 1933	50,913,000
September 30	50,457,000
October 28	52,727,000
November 25	51,934,000
December 30	51,580,000
January 27, 1934	50,229,000
February 24	55,976,000
March 24	57,879,000

After March 24, 1934 figures shown represent stocks of finished gasoline, to be marketed as motor fuel, including natural gasoline which has been blended, and gasoline made from refinery still gases.

March 24	57,011,000
March 31	57,098,000
April 28	56,011,000
May 26	54,493,000
June 30	51,405,000
July 28	48,597,000
August 25	46,120,000
September 29	43,850,000
October 27	41,993,000
November 17	*39,892,000
December 1	40,831,000
December 29	43,969,000
January 26, 1935	47,888,000
February 23	54,399,000
March 2	55,654,000
March 30	56,388,000
April 27	55,097,000
June 1	53,180,000
June 22	50,125,000

*Low point of year.

Crude Oil Stocks

(Since Oil Code Inauguration)

Bureau of Mines figures as compiled monthly, comprising all crude in storage in the country.

At end of:	Total Bbls. In Storage
August, 1933	360,001,000
September	359,979,000
October	356,885,000
November	355,614,000
December	355,394,000 / *354,305,000
January, 1934	353,642,000
February	531,641,000
March	354,067,000
April	354,350,000
May	355,883,000
June	357,239,000
July	355,260,000
August	350,838,000
September	348,937,000
October	346,415,000
November	341,165,000
December	337,254,000
January, 1935	338,174,000
February	337,319,000
March	339,139,000
April	339,793,000

*On revised basis, 1,089,000 barrels having been transferred from crude to fuel oil in California.

Trend of stocks situation since end of April, figures being from weekly reports to federal government, embracing 98 percent of total stocks, excluding those of producers.

April 27	324,899,000
May 25	323,379,000

Wells Completed in the United States

(Including oil wells, gas wells, and dry holes)

MONTH	Daily Average
January, 1933	30.0
February	30.6
March	26.6
April	25.5
May	25.6
June	21.1
July	23.1
August	30.7
September	36.5
October	40.9
November	46.9
December	47.7
January, 1934	39.7
February	38.1
March	40.6
April	44.0
May	50.7
June	51.5
July	53.6
August	51.3
September	43.2
October	49.6
November	49.9
December	48.3
January, 1935	47.9
February	49.6
March	48.8
April	58.5
May	*63.6
June	58.6

*Highest since July, 1930, when completions averaged 76.6 daily. Average dropped in August, 1930, to 52.4 and remained below that figure until July, 1934.

United States Production

(Based on American Petroleum Institute estimates, which do not include oil which may have been surreptitiously produced).

MONTH	Daily Average (Barrels)	Federal Agency Allowable
August, 1933	2,748,100	.....
September	2,568,250	2,413,700
October	2,392,900	2,338,500
November	2,267,243	2,338,500
December	2,266,426	2,210,000
January, 1934	2,233,505	2,183,000
February	2,239,070	2,183,000
March	2,339,950	2,282,800
April	2,420,950	2,366,200
May	2,575,380	2,366,200
June	2,588,100	2,528,300
July	2,560,550	2,530,300
August	2,475,300	2,449,300
September	2,431,950	2,341,700
October	2,364,150	2,325,800
November	2,375,400	2,340,300
December	2,414,600	[1]12,307,000 / [2]2,460,300
January, 1935	2,500,850	2,460,300
February	2,521,250	2,526,100
March	2,568,800	2,520,300
April	2,559,750	2,527,300
May	2,601,350	2,561,200
June	[3]2,695,515	2,651,000

[1]December 1-16.
[2]December 17-31.
[3]Preliminary subject to revision.

Greater Production

The 6.5 percent increase of crude oil production of the United States, for the first half of 1935, compared with that period last year, was the result of gains for all the oil producing states, except Arkansas, which experienced a slight decline.

The greatest increase in crude output, among all the states, was that in Louisiana, where the half-year production rose to 22,540,850 barrels in 1935, compared with 14,041,900 barrels in 1934. The sharp increase resulted from development of several flush fields in the coastal section of the state. Through the large expansion of production, Louisiana has begun to crowd Kansas for fourth place among the country's leading oil producing states.

Substantially higher production has been recorded this year for several other states, including Michigan, the

Electricity

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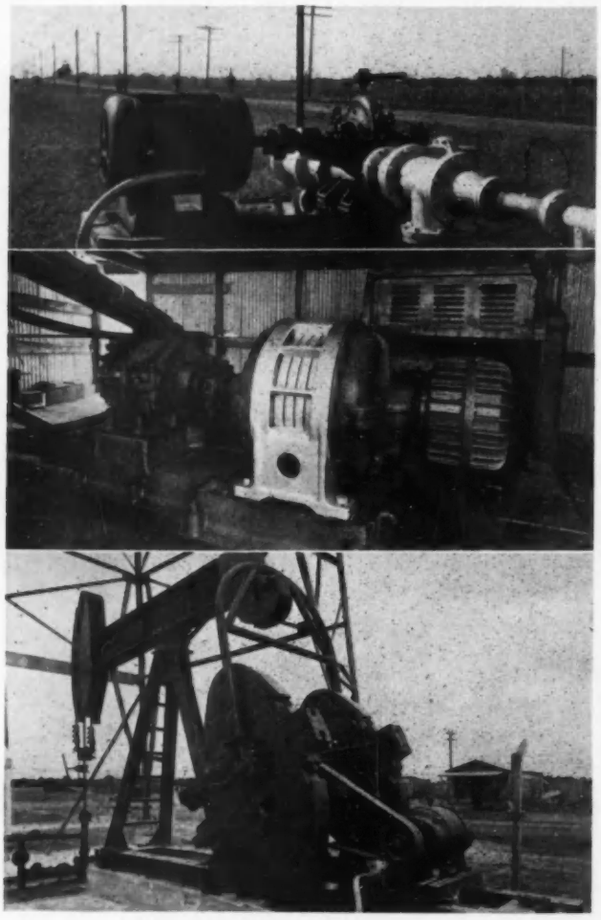

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PETROLEUM ELECTRIC POWER CLUB

Eastern States, the Rocky Mountain states, New Mexico, California, and Texas. Michigan output in the first six months this year was 6,768,600 barrels, compared with 5,201,300 barrels in the similar period last year. The Eastern States increased to 19,056,900 barrels, from 17,722,300 barrels. The Rocky Mountain States (exclusive of New Mexico) rose to 8,931,800 barrels from 7,421,200 barrels. New Mexico production increased to 8,897,400 from 7,975,850 barrels. California output rose to 91,235,626 from 86,406,522 barrels. Texas production increased to 184,807,450 barrels from 176,000,400 barrels.

Oklahoma and Kansas both showed relatively small gains in crude production. Oklahoma output increased to 89,810,700 barrels from 89,392,550 barrels, and that of Kansas to 26,385,650 from 26,052,500 barrels.

The slight production decline for Arkansas was to 5,611,300 barrels from 5,645,150 barrels.

June Statistics

For the month of June, the statistical record of the petroleum industry was generally in keeping with the favorable showing for the first half of the year as a whole. Despite voiding of the National Recovery Act and the oil code in late May, the control of oil production continued effective, except for some difficulty in California. For the United States as a whole, there was but slightly greater excess above the federal allocations in June than in May. The June output of 2,695,515 barrels daily was about 44,000 barrels daily above the federal recommendation. The May output of 2,601,350 barrels had been 40,000 barrels daily above the allocation.

Although it is indicated that some increasel of crude stocks probably occurred in June, with production substantially above crude runs to stills, there was a compensating factor in the fact gasoline stocks were reduced about 3,000,000 barrels in the first three weeks of the month, dropping to 50,125,000 barrels as of June 22, from 53,180,000 barrels on June 1. The relatively large demand for gasoline lately has apparently facilitated the desired cutting down of the motor fuel stocks.

Drilling Relatively High

The five-year peak of drilling activity set in May, 1935, was not equaled in June. But June did achieve the rank of next most active month of the five-year period, having fractionally surpassed April, 1935. During June the completions of new wells averaged 58.6 daily, including oil wells, gas wells, and dry holes. In May the completions had averaged 63.6 per day, and in April, 58.5 daily. With exception of the May, 1935, average, June drilling was the greatest since July, 1930, when completions averaged 76.6 daily. The average dropped in August, 1930, to 52.4 daily, and remained below that figure until July, 1934.

The substantial reduction of drilling in June, compared with the previous month, was nationwide, declines having occurred in Oklahoma, Kansas, Texas, Louisiana, Arkansas, the Southeastern States, New Meixco and California. The only areas reporting more drilling in June than in May were Michigan, the Eastern States, and the Rocky Mountain states (exclusive of New Mexico).

Pipe Line Activity

NEW PROJECTS— CONSTRUCTION PROGRESS, ETC.

MOUNTAIN LINE

Williams Brothers get construction contract

Casper, Wyo.—Williams Brothers of Tulsa, Oklahoma, submitted the low bid and were awarded the contract for construction of the North Central Gas Company's 163-mile line from Clayton, Wyoming, to Bridgeport, Nebraska, J. M. McIntyre, vice president of the gas company, announced on June 20.

Amount of the bid was not made public, but McIntyre said that the construction of the line would cost in the neighborhood of $1,000,000. Contract for the pipe has not been awarded. Work on the line is to start by August 1, and is expected to be finished by Thanksgiving.

The pipe line will consist of 60 miles of 12-inch, 61 miles of 10-inch pipe, nine miles of eight-inch, 18 miles of six-inch, and 14 miles of 3½-inch.

The line will take the place of the section of Stanolind Oil & Gas Company's crude oil line leased to North Central Gas Company for the past several years. Last fall Stanolind Oil & Gas Company served notice to the gas company that it would not renew the lease on the line. The owner intends to move the 12,000,000 barrels of stored light oil at its Clayton, Wyoming, tank farm through the line to its terminus at Freeman, Kansas, where the crude will move into trunk lines from the Mid-Continent and on to Standard Oil Company (Indiana) refineries. The line is the longest gravity flow line in the world, extending from Teapot, Wyoming, to Freeman, Kansas.

SOUTH HOUSTON LINE

Is expected to move first oil during coming week

Houston. — Construction work on Stanolind Pipe Line Company's six-inch pipe line from the new South Houston field, Harris County, Texas, was started and completed during the past week. It runs from the new field to the company's 22-inch main trunk line running from Chicago to Texas City, Texas. The first oil is expected to be shipped through the new line during the coming week from Stanolind Oil & Gas Company's Fee Land 1, discovery well.

This is the second pipe line laid recently by Stanolind Pipe Line Company in the Houston area. The Hastings field six-inch pipe line was the other, and runs through Webster, Texas, to tie into the main line going to Pan American Refining Company's refinery at Texas City.

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MONROE GAS FIELD

Monroe, La.—Southern National Gas Company has announced two pipe line projects to cost approximately $200,000 in the Monroe gas field. A 38-mile line from Alto, Richland Parish, to Pioneer, West Carroll Parish, will be taken up and the pipe re-layed in a new line from Perryville, Ouachita Parish, to Pioneer. The Alto-Pioneer line is an 18-inch line using couplings. The pipe will be cleaned and repaired before being re-layed. The two projects will be carried on concurrently.

Fearing that high water in the Arkansas River may cause a break in its Monroe-St. Louis trunk line near Pine Bluff, Mississippi River Fuel Company is laying a quarter-mile of emergency line from the river to a nearby protecting levee.

LINE ASSESSMENTS

Protested by companies before Texas Tax Board

Austin, Texas. — The Texas Tax Board concluded last week its hearings on the intangible assets assessments made on Texas pipe lines for the current year.

In almost every instance the lines protested the original assessments made, contending that the rate was improperly determined, or that the basis of assessment was incorrect.

The most remarkable phase of assessments made by the board this year was the fact that a different method was used in arriving at the value of each line.

R. B. Anderson, State Tax Commissioner, declared that variations in bases were essential because of the wide difference in conditions which confronted the operators.

Objections raised by the companies will be carefully analyzed by the board, Anderson said, and revised assessments announced later. Whether additional hearings will be held after this announcement is made has not been determined.

SHORT GAS LINE

Playa del Rey extension serves gasoline plant

Los Angeles.—A 9000-foot 16-inch welded gas pipe line has just been completed by F. R. Long, Inc., from the Playa del Rey extension of the Venice field to the natural gasoline plant of Ohio Oil Company at Venice, and the gas from one new well is now going through the line. The line across the lowlands at Venice was placed on trestles. The construction work was handled under contract by the Fluor Corporation.

CALIFORNIA LINE

General Petroleum starts oil through new 10-inch

Los Angeles.—General Petroleum Corporation's 10-inch line from Lebec to its new refinery at Torrance in Los Angeles County, 89 miles in length, has been completed and is in operation. The daily capacity is 40,000 barrels but this capacity is expected to be increased to 60,000 barrels a day by building booster stations when the increased capacity is needed. More than 400 men were used for about 70 days in the building.

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MOTOR TANKERS

London, England.—Nakskov Skibsvaerft of Norway announced completion of the Diesel tanker "Brasil" for the Norwegian subsidiary of The Texas Company. It is 460 feet long and has a carrying capacity of 13,000 tons and a cruising radius of 25,000 miles.

Harland & Wolff, Ltd., announced completion of the motor tanker "San Arcadio" for Eagle Oil & Shipping Company, Ltd., of London. The "San Arcadio" is 422½ feet long.

Imperial Oil Company, Limited, (Canada) reports the tanker "Fuelite" in use around Vancouver, British Columbia, for several seasons, will be towed by the tanker "Ontariolite" to Talara, Peru, to operate in the company's fleet active on the west coast of South America.

Fitts Extension

WELL ONE HALF MILE EAST MAKES 221 BARRELS HOUR

WEEKLY STAFF REPORT

Ada, Okla.—After almost three weeks of washing, gas lifting and cleaning out, Amerada Petroleum Corporation was rewarded with success at G. Smith 1, SE SW NW 28-2n-7e, in the Fitts pool 12 miles southeast of here. This well extends production almost one half mile to the east and further indicates that no accurate prediction can yet be made as to the eastern limits of the pool. Since it is structurally higher than wells to the west, it seems probable that production may be carried a considerable distance eastward before the oil-water contact is found. Bromide formation was encountered in the test at 3923 feet, the first sand at 4035 feet and the second sand at 4117 feet. McLish formation was penetrated 14 feet to the total depth of 4154 feet. Operators first set the tubing at 3470 feet, washed and circulated the well for several days but could not induce it to flow. Subsequently the tubing was lowered by steps to 3897 feet and the formation treated with 2000 gallons of acid. When reopened it made 163 barrels the first 30 minutes and 221 barrels the first hour through casing, then made 140 barrels in one hour through the tubing. Net production the first 14 hours was 1112 barrels. It was still being cleaned out and probably will be made into a considerably larger well than is now indicated.

Ed H. Moore et al's Craddock 7, NE SW SW 29-2n-7e, attracted attention during the week when it started flowing at the rate of about 145 barrels per hour through the casing from a sand in the McLish formation at 4234 to 4244 feet. Several weeks ago this well was tested and found to be good for only about 85 barrels per hour from Bromide formation, topped at 3900 feet. The first sand was logged at 4000 feet and the second sand at 4065 feet. Since it was considerably smaller than the average Bromide well the operators decided to test McLish, which heretofore has been tested in only one well found to be of economic importance in the structure. At the time of completion of the first McLish sand well an agreement was made that development of this horizon would be delayed since the removal of production from it near the southern margin of the structure would tend to drain from leases higher on structure and yielding large quantities of oil from the overlying Bromide sands. This would have resulted in the drilling of a large number of twin or triplet wells. Whether the agreement will be continued is a questionable matter, especially in cases where only small production is found in the Bromide.

ALFALFA WILDCAT

Test is to be drilled to 7500 feet if necessary

Cherokee, Oklahoma.—Under a deal recently consummated Tex-O-Kan Development Company et al's Acre 1, C SW NE 14-24n-11w, approximately 13 miles south of here in southern Alfalfa County, is to be cleaned out and drilled to 7500 feet if necessary. Olson Drilling Company has been given the contract made possible through contributions by Mid-Continent Petroleum Corporation, Marathon Oil Company, Indian Territory Illuminating Oil Company, Skelly Oil Company, Phillips Petroleum Company, Empire Oil and Refining Company, Twin State Oil Company, Margay Oil Company, Eason Oil Company, and The Texas Company. This rank wildcat was spudded in August, 1929, by J. V. Bailey and associates. In November, 1930, Western Royalty and Producers Company took it over at 4656 feet after several showings had been encountered. In November, 1932, Tex-O-Kan Development Company took over the test at 5502 feet and set seven-inch pipe at 5530 feet to shut off water coming from the Layton series at 4960 to 5020 feet. At 6034 feet oil started coming into the hole and at 6255 feet it made a small flow. Drilling was continued to 6460 feet with no further increases in the showing which at one time put 4000 feet of oil in the hole.

This area is of considerable interest since but little is known of the geologic section or structural conditions. Tests drilled to the west in Woods and Harper Counties are among the deepest in the state. Sinclair Oil & Gas Company's Stewart 1, SE NE NW 33-27n-16w, approximately 35 miles to the west in west central Woods County, went out of Pennsylvanian beds at 5870 feet, topped the Simpson formation at 7130 feet and was completed at 7290 feet after finding Wilcox sand dry. A showing of gas and water was encountered in Hunton lime topped at 6745 feet. Farther to the west Empire Oil and Refining Company drilled to 7900 feet and was still in beds of Mississippian age in its Bruce 1, NE NE SW 12-25n-20w, southeastern Harper County. It is therefore indicated that intervals thin to the east toward Alfalfa County and Tex-O-Kan may be able to penetrate Wilcox sand above 7500 feet if a fold is encountered.

EDMOND EXTENSION

Is anticipated with two outpost tests showing

Edmond, Oklahoma.—Production in the Edmond pool, four miles west of here in northwestern Oklahoma County, is due to be extended one half mile to the north as Pure Oil Company drilled ahead in Main 1, SE SE SW 30-14n-3w. This test encountered upper Wilcox sand at 6510 feet, structurally higher than in the nearest test to which it can be compared, and was drilling below 6560 feet. The average interval between top of the upper and lower Wilcox sands in the pool is approximately 70 feet. Its chances for making a large well are good.

Two miles southeast of the pool, Sinclair Prairie Oil Company cored from 6650 to 6658 feet, recovering 3½ feet of tight white sand showing oil, and was coring ahead in Corbett 1, NE NW NE 17-13n-3w. This test had Simpson dense at 6434 feet and no tops have been released below that point.

In the same area, Slick-Urschel Oil Company et al had shut in Owen Community 1, SE SE SE 19-13n-3w, three and three quarter miles southeast of the Edmond pool and 1¼ miles northwest of the town of Britton. On a test early in the week it gauged 465 barrels of oil and 37,000,000 cubic feet of gas in 24 hours from lower Wilcox sand topped at 6762 feet and drilled to 6790 feet. It probably will be completed as a gas well.

WILDCAT GAS WELL

South of Oklahoma City one of largest in state

Moore, Oklahoma.—Sinclair Prairie Oil Company et al's Franklin-Community 1, SE NW SE 21-10n-2w, 3¾ miles east of here and 4½ miles southeast of production in the Oklahoma City pool, showed as one of the biggest gas wells ever completed in the state on Wednesday, June 19, when it was tested and estimated capable of making 200,000,000 cubic feet. This test was what might be called an up and downer. Upper Wilcox sand topped at 7245 feet was found to be of no importance after a salty core had been pulled from Simpson dense at 7051 to 7062 feet. Since it was running approximately 500 feet structurally lower than the south end of the Oklahoma City pool operators had but little hopes

of making a well when they started deepening to second Wilcox sand. This formation was topped at 7268 feet and drilled to 7291 feet, the total depth. Seven-inch casing was cemented at 7268 feet and since there was doubt that it would make a well only 200 sacks of cement were placed behind the pipe so as to permit a large pipe recovery in case of a dry hole. When bailed down 1000 feet the test blew in estimated to be making between 125,000,000 and 150,000,000 cubic feet.

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CANADIAN COUNTY

Yukon, Okla.—The deepest test completed in central Oklahoma in several years was a dry hole during the week when Carl Larkin et al announced abandonment of Provine 1, NW NW NE 33-13n-5w, 3½ miles north of here in eastern Canadian County. This test topped Oswego lime at 7285 feet and went into a weathered sand showing Wilcox grains at 7470 feet. Total depth at the time of abandonment was 7748 feet. Top of the Wilcox sand was not reported.

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GRANT COUNTY

Enid, Okla.—Helmerich and Payne had a green shale break at 6347 to 6351 feet in the Mississippi lime and were drilling below 6360 feet in their Crouse 1, C NE SW 29-25n-8w, 18 miles northwest of here in southwestern Grant County. Nearest production is in the Garber pool 32 miles to the southeast in eastern Garfield County. The test is on a seismograph structure.

OKLAHOMA ACTIVITY

Last week 43 new permits and 35 completions made

Tulsa.—Three large wells in the Fitts pool, Pontotoc County, and two in Edmond pool of northwestern Oklahoma County brought what otherwise would have been a drab week up to about the average for the year. Of the 53,230 barrels of initial production from 22 wells, the five wells mentioned above accounted for 51,330 barrels or more than 96 percent of the state total. One gas well with an initial volume of 3,500,000 cubic feet and 12 dry holes were reported to bring completions to a total of 35 which involved a total of 87,990 feet of drilling. This included 2222 feet in two wildcat dry holes, 408 feet in three old wells and 85,360 feet in the remaining 30 completions.

New work announced by the unit management of the South Burbank pool placed Osage County in the lead with seven first reports, scattered work placed Creek County in second place with six first reports and Oklahoma and Pontotoc counties were tied for third place with five each. In the remaining 14 counties, Pottawatomie had three; Greer, Muskogee, Noble and Stephens, two each; and Beckham, Caddo, Carter, Choctaw, Comanche, LeFlore, Love, Okmulgee and Tulsa Counties, one each; a total of 43 compared to 68 during the preceding week.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Carter Oil Co., McKiddy 1, sw sw ne 8-2s-2w (pb 2400 ft)	38	2710
Cortez Oil Co., Harrell 1, nw nw se 20-4s-2w (pb 1810 ft)	20	2095
Shell Pet. Corp., Wirt Franklin 53, se nw ne 8-4s-3w (pb 1023 ft)	6	1032
COTTON COUNTY—		
Shasta Oil Co., Cobb 10, nw sw se ne 2-2s-10w	26	2155
CREEK COUNTY—		
Home Gas Co., Givins 1-A, sw sw sw se 27-18n-7e	*	3027
Big Four Pet. Co., Anthis 1, se se sw nw 35-19n-8e	*	2770
GREER COUNTY—		
Gled Oil Co., Luker 1, se se se 6-4n-21w	*	2167
JACKSON COUNTY—		
Mansion et al, Minor 1, nw nw ne 15-1n-20w	26	1456
Selby O&G Co., Cobb 1, ne nw ne 22-1n-20w	14	1148
Burke-Greis Oil Co., sw nw sw 31-3n-19w	*	1320
LOGAN COUNTY—		
Helmerich & Payne, Moss 1, se se sw 11-17n-1w	*	5194
MUSKOGEE COUNTY—		
Bryan Pet. Co., Simmon 5, ce¼ ne se 4-15n-15e (otd 1666 ft) (pb 1666 ft)	4	1935
OKFUSKEE COUNTY—		
Steckoll et al, Ditzler 1-A, sw sw se ne 2-10n-11e (pb 1690 ft)	*	1700
OKLAHOMA COUNTY—		
Marathon Oil Co., Dahl 1, se se se 31-14n-3w (otd 6533 ft)	¶420-8820	6643
Mid-Continent Pet. Corp., Young 3, sw se ne 31-14n-3w	¶162-9318	6575
OKMULGEE COUNTY—		
W. C. McAdoo, Broadnex 1-A, ne ne sw nw 31-12n-14e	*	2263
Wallace, Colbert 15, cne se 14-14n-14e (pb 1730 ft)	*	1756
Downing, Colbert 26, ne ne sw sw 1-15n-14e	10	1351
OSAGE COUNTY—		
Continental Oil Co., 7, nw sw se 21-24n-7e	35	2679
Phillips Pet. Co., 14, se sw ne se 10-27n-5e (otd 3002 ft)	8	3031
PITTSBURG COUNTY—		
Choctaw O&G Co., Burryard 1, se se ne 18-7n-18e	¶3½	2109
PONTOTOC COUNTY—		
Mudge Oil Co., Clampett 1, sw nw nw 10-2n-6e	*	902
Magnolia Pet. Co., Shaffer 4, se sw nw 25-2n-6e	6144	4360
Magnolia Pet. Co., Simpson 2, sw sw se ne 29-2n-7e	11,880	4175
Crosbie, Hardin 2, se ne ne 20-2n-7e	15,168	4270
Senora Oil Co., Gilmore 3, se ne ne ne 22-5n-8e (pb 842 ft)	10	856
POTTAWATOMIE COUNTY—		
Bracker, Brandenburg 2, ne sw sw 3-7n-4e	*	3565
Smith & Scott, Brandenburg 1, se nw ne 3-7n-4e	519	4102
Sinclair Prairie Oil Co., M-qu-aka 2, ne nw sw 11-7n-4e (pb 3902 ft)	27	4292
Barnsdall Oil Co., Robertson 1, nw ne se 30-8n-4e	194	4420
SEMINOLE COUNTY—		
Jones & Shelburne, Whitney 1, se ne nw 31-7n-8e	*	3773
Amerada Pet. Corp., Chase 10, se ne se 29-9n-6e	943	4124
STEPHENS COUNTY—		
Mudge Oil Co., Woods 43, nw sw nw nw 26-1s-5w	10	688
Duncan Oil Co., Drummond 1, csl nw nw 5-1s-8w	*	2504
Bridwell Oil Co., Nigh 1, nw ne se sw 11-2s-8w	¶2-10	2044

*Failures; †Junked; ¶Million cu. ft. gas.

KANSAS OPERATIONS

Include 18 first reports and 17 completed wells

Wichita, Kansas.—Kansas operators experienced a second poor week from a completion standpoint and work was about normal when 18 first reports were made and 17 wells completed. Initial production for the 10 oil wells was 3812 barrels, the lowest amount reported during any other week since the beginning of the year. The completion report included two dry gas wells with combined volume of 25,725,000 cubic feet, one abandoned location and four dry holes. The 49,859 feet of drilling was below the average for the year. Included in this figure were three wildcat dry holes involving 11,713 feet of drilling, one old well deepened 122 feet and 38,420 feet in the remaining 13 completions.

Rice county had no stiff competition for the lead in new work when it led the state with five first reports. Cowley, Greenwood, Reno and Russell Counties were tied for second place with two each; and Ellsworth, McPherson, Sumner, Trego and Woodson Counties were tied with one each.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BUTLER COUNTY—		
Rex & Morris, Loomis 2, se ne se nw 21-27s-4e	70	1995
ELLIS COUNTY—		
Phillips Pet. Co., Texas Co. et al, Bertha 1, csw se 5-13s-17w	lcn.	abd.
ELLSWORTH COUNTY—		
Empire Oil & Ref. Co., Rolfs 4, se sw ne 14-17s-9w	1083	3177
HARVEY COUNTY—		
Phillips Pet. Co., Ewy 1, nw sw nw 24-22s-2w (pb 3142)	¶12¼	3558
McPHERSON COUNTY—		
McPherson Oil & Gas Co., Anderson 3, se se ne 31-18s-2w	88	2337
Shell Pet. Corp., Decker 8, se sw se 11-19s-2w (otd 3360) (pb 3391)	65	3482
NESS COUNTY—		
Phillips Pet. Co., Young 1, cnw sw 13-18s-21w	*	4235
RENO COUNTY—		
Sinclair Prairie Oil Co., Horner 4, ne se sw 14-23s-4w (pb 3375)	¶10-4	3825
Olson Oil Co. & Shell Pet. Corp., Blake 8, nw nw se 23-23s-4w (pb 3560)	¶7-38	3609
Mylius et al, Sprowl 1, ne nw ne 1-24s-5w	*	3969
RICE COUNTY—		
Slick, Pryor & Lockhart, Orth 3, sw sw ne 27-18s-10w	¶24¼	2945
Keith et al, Volkland 3, sw ne se 20-19s-9w	642	3260
Magnolia Pet. Co., Meyers 4, ne sw nw 21-19s-9w	1222	3233
RUSSELL COUNTY—		
Buffalo Oil Co., Shaeffer 3, se ne nw sw 27-13s-14w (pb 3310)	288	3315
Hartman & Blair, Roeback 1, se ne nw 2-14s-15w	312	3112
Wolf Creek et al, Penn Mutual 1, nw sw sw 22-15s-15w	*	3509
SEDGWICK COUNTY—		
Lauck et al, Jordan 1, nw sw se 6-28s-1w	*	3698

*Failures; †Junked; ¶Million cu. ft. gas.

Rusk Offset Well

FAILS TO FLOW AND WILL BE GIVEN SWABBING TEST

WEEKLY STAFF REPORT

Palestine, Texas.—Wood and Young's New Birmingham 4, offset to the two completed oil producers in the Rusk pool, Cherokee County, logged hard and tight sand in penetrating six feet into the Woodbine sand section, and failed to flow when blown with gas from the south offset. Preparations were under way late last week to swab the well through tubing, with the outlook favorable for a producer. It was drilled to 5182 feet, or 4706 feet below sea level. Shell Petroleum Corporation has moved in materials to drill a southeast offset to Wood and Young's completed flowing well.

Cal T. Scott et al's Whiteman-Decker 1, situated about three miles southeast of the Rusk pool, was ordered abandoned after registering a low structural position in drilling to 5383 feet.

Two more tests for the Camp Hill field, Anderson County's dual pay area, have been authorized by Gulf Production Company on its Southern Pine Lumber Company lease in the J. C. Rosson Survey. Both are offsets to flowing wells completed in the Sub-Clarksville sand. Another location is pending on the same tract to drill a north offset to the company's single Woodbine sand producer.

September 15 has been set as the starting date of the wildcat to be drilled by Gulf Production Company on Atlatl Royalty Corporation's Alba block, southwestern Wood County. The structure, based on geophysical information, is rated among the best prospects awaiting exploration in the Woodbine sand belt. Gulf Production Company paid $50,000 cash for lease on 1000 acres, and assumed Atlatl Royalty Corporation's obligation to drill the test. All acreage within the block is being surveyed, and abstracted as a precaution against vacancies and defective titles. Atlatl Royalty Corporation's Goldsmith 1, situated on the Quitman structure, Wood County, substantiated the geophysical picture in checking high, but failed to score production in the Woodbine sand topped at 4447 feet. It has been drilled about 300 feet into the Woodbine section, and will be carried to the Georgetown lime.

Encountering an irregular sand condition, H. L. Hunt et al's C. L. Loper-Standolind 1, offsetting oil production in the north portion of the Cayuga field, Anderson County, has plugged back from 4106 feet to 4085 feet because of yielding salt water. Four feet of sand, giving promise of an oil well, was taken in the last cores, with the hole bottomed at a sub sea depth of 3774 feet. The estimated danger zone for bottom hole water is near minus 3770 feet, but Clark-Cowden Drilling Corporation's J. W. Barton 1, a recent completion to the southeast of the above project, topped the oil saturated sand section at 4087 feet, and drilled to 4115 feet, or 3789 feet sub sea, scoring a flowing oil well.

Roeser-Pendleton, Inc., has moved in materials for the drilling of two more tests on its Ware & Wilson 460-acre lease on the strength of its success in widening the oil producing area for the Cayuga field about 7000 feet westward. Kirby Petroleum Company's C. L. Loper 1, an offset to Hunt et al's Loper 1, showed oil and gas on drill stem test at 4088 feet, or minus 3760 feet, and has cemented casing on top of the sand to complete. Kirby Petroleum Company has made location near the Henderson County line to drill near the center of its C. R. Litchfield 20-acre lease, I. Clendennen Survey.

EAST TEXAS FIELD

Has 118 completions last week; four are failures

Tyler, Texas.—The East Texas field scored a heavy run of completions the past week. There were 118 oil producers, including 10 that failed to register natural flow; two tests junked while in process of completion; and two dry holes. This compares with a total of 106 completions the previous week.

Independents continue to set the pace on new field work, having accounted for 76 completions, or 62.3 percent of the total, the past week, as compared to 60 percent of the total completions the previous week. Twelve majors shared in the 46 completions credited to their respective group the past week.

More than a half dozen approved locations on nearby drilling sites were rendered doubtful for production the past week when B. F. Phillips et al's I. W. Wooley 1, center block 8, Bennett Smith Survey, Joiner area, Rusk County, failed to strike oil sand in drilling to 3642 feet. The immediate area was scheduled for an intensive development program, with independents holding five-acre tracts. M. V. Hardin et al's N. Peterson 1, NWc of 104-acre tract, J. C. Barnett Survey, situated in the north part of the county, is to be abandoned as a failure at 3540 feet. Both tests were drilled on the extreme east edge of the structure. Plugging orders have been issued for The Texas Company's Allen Kersh 9, SWc of 211-acre lease, E. B. Foulks Survey, situated near the southwest border for production in Rusk County. It was completed for a big flow in November, 1932, from six feet of sand, with the hole bottomed at 3308 feet sub sea, but developed a high percentage of salt water in the face of a high structural position.

Nineteen of the completions reported the past week penetrated less than six feet of the Woodbine sand section as a safeguard against bottom-hole water, and six of the number were credited with taking in about one foot of sand.

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EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Amerada-Deep Rock, Stovall 23 (193.86-ac)	2600	3649
Jack Apple et al, Kangerga 2 (38-ac)	500	2690
Atlantic, Ida Kinney 38 (336-ac)	6000	3630
British-American, Kangerga 10 (69.78-ac)	9000	3635
Bison Ref. Co. (Primrose), C. C. Dorsey-Brachfield 1 (10-ac)	165	3681
R. B. Bryant et al, W. H. Worrell 1 (5-ac)	480	3586
Crabtree & Jefferies, Giles 8 (32.57-ac)	5400	3750
Mike Despot et al, A. J. & D. F. Deason 2 (5-ac)	1200	3652
Florence Oil Co., Mrs. J. Wilson 1	*	3788
Fox & Butler, A. Thrash 6 (14-ac)	8000	3734
Gulf, H. Johnson 6 (101½-ac)	5000	3762
Humble, J. H. Arnold 9 (62½-ac)	9000	3794
A. D. Blackwell 42 (325.79-ac)	10,500	3643
J. E. Glover 15 (132½-ac)	5500	3580
E. S. Holt 7 (51.43-ac)	8700	3811
Kangerga 49-A (333¼-ac)	9000	3637
Mattie Wooster 9 (74.23-ac)	8200	3742
H. L. Hunt, Mayfield Alford 3 (15-ac)	480	3670
Illinois Oil Co., Mayfield-Shell 42 (197.1-ac)	5200	3830
Stanley Lewis & Suni Oil Corp., S. S. Cook 10 (10-ac)	10,500	3748
Magnolia, A. T. Tyiska 3 (116.94-ac)	6200	3832
Marathon, M. M. Cross 74 (814.84-ac)	3600	3624
Miller Prod. Corp., D. Bradford 12 (34-ac)	500	3655
M. Nathan & Harry Allsman, J. B. Hale 1 (10-ac)	2000	3546
Octo Oil Corp., H. C. Tipps 5-A (21.91-ac)	240	3572
H. C. Tipps 7-A (21.91-ac)	190	3572
Overtex O&G Co., John Rettig 3 (100-ac)	*	3665
Overton Ref. Co., Maxwell 3	6800	3800
B. F. Phillips et al, I. W. Wooley 1 (10-ac), blk 8	*	3642
Prince Bros. Drlg. Co., Arterberry-Jackson 3 (11.26-ac)	5200	3834
Geo. B. Ray Corp., L. J. Pinkston 9 (49-ac)	8000	3626
Retsal Drlg. Co., J. T. Brown 5 (16.4-ac)	8700	3756
W. L. & T. L. Sessions, Sebe Stone 11 (50.9-ac)	5000	3760
Shell, H. Brooks 19-B (176.4-ac)	5500	3710
J. Simmons et al, I. R. Thrash 2 (12½-ac)	4000	3776
Standard (Kan.), M. L. Thompson 8 (59.02-ac)	8600	3630
Stanolind-Pure, W. H. Siler 55 (983½-ac)	1000	3691
Stewart Holdings, Inc., S. S. Cook 3 (5-ac)	9600	3730
Trippmead Oil Corp., M. L. Thompson 6 (6.06-ac)	7200	3810
Walters & J. C. Sanford, Norfolk Baptist Church 2	5000	3808
Ward Oil Corp., A. P. Finney 13 (74.51-ac)	5000	3695
J. S. Wheelis Oil Corp., T. J. Smith 12 (101.7-ac)	8000	3686
C. Wynne Drlg. Co., N. Green 1 (4-ac)	7600	3819

Company, Well and Location	Init. Prod. Bbls.	Depth
KILGORE AREA—		
Atlantic, M. B. Hughey 14-A (105-ac)	9200	3661
M. B. Hughey 15-A (105-ac)	9200	3685
Bay Oil Corp., W. P. Moore 12 (106.93-ac)	7000	3732
Constantin et al, W. D. Tucker 1 (296-ac)	4000	3661
Cordova Union Oil Corp., C. O. Christian 4-D (62½-ac)	7000	3661
Dyck Oil Co., J. M. Blackman 5 (50-ac)	8000	3660
C. G. Glasscock & L. L. Sugar, C. M. Dickson 1 (235-ac)	240	3576
Gralenor Oil Co., A. A. King 5 (78.33-ac)	4300	3683
Gulf, Grif Davis 9 (50-ac)	7000	3583
C. E. Christian 11 (91.97-ac)	9200	3719
C. E. Christian 28-C (277.85-ac)	8600	3663
S. Hilburn 88-B (172.38-ac)	7400	3558
A. Muckelroy 25 (152.05-ac)	7000	3606
M. V. Hardin et al, N. Peterson 1 (104-ac)	*	3540
Erle P. Halliburton, Inc. (Steen Drl. Co.), W. D. Lacy-Shell 10 (63.3-ac)	8700	3657
Humble, L. D. Crim 163 (914.51-ac)	8300	3706
L. D. Crim 164 (914.51-ac)	7500	3698
S. S. Laird 36-A (230-ac)	7000	3674
J. T. Sexton 15-A (137.48-ac)	6800	3695
Johnston & Burnham, S. L. Dansby 2 (40-ac)	3000	3745
Jones-Shelburne, Inc., H. H. Leach 2 (51-ac)	160	3497
Magnolia, H. P. Hale 4 (50-ac)	240	3608
John Radford 32 (252-ac)	9000	3619
Navarro Oil Co., J. N. Peterson 11 (42-ac)	9100	3715
J. F. Parks et al, Willis Smith 2 (3.28-ac)	7600	3560
Y. Rogers-Rozel Oil Corp., Henry Sexton 6 (55.26-ac)	1500	3673
Sells Pet. Inc., Will Williams 5 (20.44-ac)	7700	3584
Shell, Rosa Russell 24 (126-ac)	8000	3642
Stroube & J. L. Collins, V. Barton 2-A (12½-ac)	7000	3750
Stroube & Stroube, J. R. Beall 5 (28-ac)	600	3570
Sun, J. R. Beall 20 (180-ac)	7700	3639
E. I. Tallal et al, D. Jones 1 (7.88-ac)	500	3675
D. Jones 2 (7.88-ac)	500	3675
Tide Water, Jack Bean 11 (85.6-ac)	8800	3598
J. M. Blackman 16 (80.86-ac)	8200	3654
H. J. Wilder et al (was Farrell & Co.), S. Brox 4 (20-ac)	7600	3688
LONGVIEW AREA—		
Arkansas Drl. Co., E. C. Johnson 3 (13½-ac)	8000	3699
Arkansas FO Co., J. C. McKinley 6-C (54.7-ac)	10,000	3612
Atlantic, W. T. Burnsides 32-B (214-ac)	10,500	3523
W. T. Burnsides 33-B (214-ac)	10,300	3525
C. & G. Oil Co.-Alger Oil Co., Harris 16 (91.54-ac)	9600	3539
John Coates et al, F. Williams 2-A (17.24-ac)	10,000	3615
Conservative Oil Co., C. J. Mackey-Humble 4 (147-ac)	5500	3712
Davis et al, W. M. Landers 1 (1.68-ac)	7600	3720
FHE Oil Co. et al, J. F. Flemister 10 (45-ac)	8700	3636
Hanbury et al, J. H. Gage 1-C (3.9-ac)	1500	3628
Humble, W. R. Hughes 37 (245.6-ac)	7200	3669
Della Johnson 13-A (89¾-ac)	7500	3581
I. D. Smith 32 (245.98-ac)	6500	3630
Imperial Pet. Co., W. C. Shoults 4 (21-ac)	7500	3691
Iowa Payne Oil Co., I. Isley 4 (10-ac)	9100	3600
Kewanee O&G Co., fee 22 (168.77-ac)	10,400	3576
C. H. Lyons-J. K. Wadley & N. F. Neeley, O'Byrne-Gaunce 2	500	3795
Magnolia, R. A. Adkins 16 (100-ac)	7000	3696
Betty Doby 11 (42.85-ac	8300	3755
L. J. Everett 28 (166.96-ac)	8000	3688
H. L. Foster 17 (101.41-ac)	8800	3607
J. W. Free 27 (169.38-ac)	7200	3665
Marine Prod. Co., G. W. Richey 5 (12-ac)	11,000	3543
Midfield Oil Co., L. Rodden 6 (30.38-ac)	4800	3641
Nathan Oil Co., Miles Rodden 1 (1-ac)	6800	3607
Peyton Bros. et al, J. M. Christian 5 (17.77-ac)	7000	3600
Port Bolivar Co., L. L. Mackey 1-A (100-ac)	100	3655
Rancho Oil Co., J. K. Edwards 13 (106-ac)	8500	3649
Ted Schroeder et al, J. C. Bumpas 8, (26.04-ac)	9800	3595
Selby O&G Co-Lewis Prod. Co., Snavely 23-A (214½-ac)	8000	3582
Shell, A.N. & V. King 22 (160-ac)	8500	3597
G. H. Slaton 16 (123.65-ac)	9000	3662
Sinclair Prairie, J. R. Williams 16 (80.2-ac)	10,000	3520
Snowden & McSweeney Co., M. Bonner 11 (100-ac)	6000	3590
Southland Drl. Co.-United E&W Oil Co., O'Byrne 34 (304-ac)	8000	3639
O'Byrne 35 (304-ac)	5000	3712
Sun, T. C. Ramey 10 (86.54-ac)	600	3770
Superior Oil Co. (Cal), H. Pritchard 17-A (99½-ac)	9300	3559
Sutton & Hawkins, J. A. Whittaker 12 (35-ac)	7000	3521
Texas Co., D. Culpepper 5 (61.57-ac)	500	3751
Trentman Oil Corp., W. Christian 2 (8¼-ac)	8500	3632
Yount-Lee, Geo. E. Fenton 9-A (77.64-ac)	7200	3606
F. K. Lathrop 9-C (114.8-ac)	7000	3631
VAN ZANDT COUNTY (Van Field)—		
Pure Oil Co., A. R. Humphreys 5 (100-ac)	2500	2948
B. W. Russell 6 (30-ac)	500	2970
CHEROKEE COUNTY—		
Cal T. Scott-Turpin et al, Whiteman-Decker 1	*	5
HUNT COUNTY—		
D. T. Cauble et al, Y. B. Reed 2	*	795
J. F. Morrissey Co., Inc., P. B. Fry 1	†	2007
SMITH COUNTY—		
H. L. Hunt & Sun Oil Co., E. W. Judge 1	*	5172

*Failures; †Junked; ¶Million cu. ft. gas.

POLLUTION ACTIVITY

By East Texas companies has reduced fire hazards

Tyler, Texas.—Members of the executive committee of the East Texas Anti-Pollution Committee, an organization supported by the majority of the East Texas field, commended the work of its field staff in curbing fire hazards and potential sources of stream pollution at the annual meeting held here June 21. The body has been functioning since June, 1931, and through its full time staff has been of material assistance in preventing waste oil and salt water from reaching the various streams that cut through the field.

At the conclusion of an inspection tour of the field, the committee reported that the principal sources of pollution are confined to oil escaping from earthen pits used by refiners, and also to refuse from the plants. Some complaints have been listed with the committee regarding the activities of certain owners of waste oil pickup stations along the streams in the field proper, owing to excessive quantities of fresh crude occasionally reaching such stations.

Return of normal rainfall to the district this year has minimized the salt water disposal problem for the field. More effective enforcement of proration has served to cut down the volume of salt water. Owners of wells making water are impounding the brackish fluid in earthen pits.

Don R. Gladney, Magnolia Petroleum Company, Dallas, is chairman of the executive committee of the East Texas Anti-Pollution Committee, and M. B. Sweeney, Sun Oil Company, Dallas, is vice-chairman. George E. "Salty" Martin is in charge of the field personnel. Monthly assessments are made on a basis of total wells held by each company and individual giving support to the organization to defray the overhead, which is confined to salaries and automobile expense.

PERMITS INCREASE

In East Texas pool since spacing rule was upheld

Tyler.—Issuance of permits to drill wells in the East Texas field involving exceptions to Rule 37 have scored a healthy gain since the Texas Supreme Court upheld the spacing rule promulgated by the Texas Railroad Commission in rendering a decision June 9 on a group of test cases. All exceptions to Rule 37 require a public hearing at the commission's headquarters at Austin, and must be approved by members of the commission. Between June 20 and June 25 approval was given by the commission for the drilling of 165 new wells in the East Texas field. Only 20 permits conformed to Rule 37, while 145, or 88 percent of the total, were listed as exceptions. Some major companies were listed among those granted exceptions.

Average cost of obtaining the necessary "legal representation" at Austin to have applications for exceptions to Rule 37 approved has been doubled since the Texas Supreme Court released its interpretation of the well spacing law. A large corps of lawyers and individuals claiming political influence have concentrated upon the state capital within the past several years to specialize in obtaining special permits for East Texas operators. Competition and liberal policy of the commission forced the fee down to about $50 per well prior to the June 9 court decision. Cost of permits frequently rose above this figure, depending upon the circumstances and opposition raised by offset property owners.

Failure of the commission to tighten up on permits resulted in Humble Oil & Refining Company and Atlantic Oil Producing Company successfully contesting unjustifiable exceptions through pleas filed with the Austin Court of Civil Appeals on June 26. Other companies plan to adopt similar tactics in resisting the drilling of unnecessary wells by neighboring lease owners.

Majority of the approximately 1100 separate groups of companies, individuals and partnerships taking part in the development of the field refuse to recognize the economic danger of over-drilling, and are in many instances working to a goal of one well per acre. Scores of leases, bearing more than one well, have a density of one well to less than two acres, and some of these are obtaining the approval of the commission for more wells.

Walton-Keystone

AREA HAS TWO WILDCAT TESTS THAT ARE SHOWING FREE OIL

NORTH & WEST TEXAS

WEEKLY STAFF REPORT

San Angelo.—Appearance of free oil from lime horizon in two of the seven active wildcats underway on the Walton-Keystone structure, north central Winkler County, forecasts an early showdown on the importance of the area as a source of oil production. Gulf Production Company's Keystone Cattle Company 1, NEc NW Section 10, Block B-3, PSL Survey, halted operations late last week to run and cement seven-inch casing after developing a show of oil in lime at 3198 feet, or 256 feet below sea level, while carrying 3,000,000 feet of high pressure gas from multiple zones above.

Oil showings were logged at 3417-18 feet and 3430-42 feet by Gulf Production Company's Keystone 2, NWc Section 17, Block B-2, situated about three miles to the southeast. Operations were halted at 3442 feet, or 491 feet sub-sea, to ream the core hole. This test topped the brown lime marker at 2290 feet, or about 190 feet lower on structure when correlated with Keystone 1, and has been drilled 1152 feet into the lime, while Keystone 1 has penetrated 1108 feet into the same section. Gulf Production Company's Keystone 3, 4, 5 and 6 are fighting heavy gas pressure in drilling at depths ranging from 2500 to 2800 feet, each situated on a separate section of land. Keystone 5, NWc SW¼ Section 6, Block B-2, scored the highest structural position, having topped the lime 10 feet higher than Keystone 1. Keystone 4 and 6, situated on an east and west line with Keystone 2 and on the south end of the active area, have encountered the series of gas zones in spite of the relatively low structural position.

Sid Richardson et al's J. B. Walton-Pure 1, NWc SW SW Section 1, Block B-3, original test launched in the area and the northern most location, occupies almost the same structural position as Keystone 1, and has drilled to the 3200-foot level. Heavy gas pressure has also retarded progress on the Walton ranch test.

Reagan County

Reagan County gives promise of scoring its third oil producing area through Dobbs Oil Company, Dallas, having developed 2000 feet of 38 gravity oil in the hole from 2400-foot lime in its W. E. Friend 1, near NWc S½ Section 3, William Allen Survey, situated about five miles southeast of the Big Lake field. Oil saturated lime was passed up in drilling into sulphur water at 2465 feet, or 204 feet above sea level. The hole was plugged back to 2440 feet, and treated wth 1500 gallons of acid, but no pressure was available to apply to the acid because of a breakdown of pumping equipment. First attempt to shoot the lime section with nitro resulted in a premature explosion, but the discharge of 200 quarts at 2330-2395 feet caused the hole to fill with 900 feet of oil the first day. Top of lime was logged at 2255 feet.

Shallow geological markers logged by Phillips Petroleum Company and Pure Oil Company's 2, test drilling on the Clyde Cowden 5178-acre lease on the east edge of Gulf Production Company's Goldsmith-Scharbauer oil property in northwestern Ector County indicates a favorable structural position. Gulf Production Company's Goldsmith-Scharbauer 1, C NW Section 10, Block 44, T. & P. Ry. Survey, T-1-S, gauged 47.4 barrels of oil per hour for 18 hours through open two-inch tubing, with a gas-oil ratio of 1395 feet to one barrel of oil. This well recently guaged 85 barrels hourly through 8⅝-inch casing after deepening to 4175 feet, or seven feet in the lime pay. The Texas Company sold 1240 net royalty acres held under this producing property to Harry Renolds, Houston, and Toledo, Ohio, parties for $63,240 cash, or on a basis of $51 per acre. Landreth Production Corporation et al's Scharbauer 1-A, SEc NW Section 13, Block "A", PSL Survey, situated about 1½ miles northeast of the company's discovery well of the Scharbauer-Goldsmith area, is scheduled to be the next completion, having logged gas in drilling to 3975 feet.

Honolulu Oil Corporation and Llano Oil Company's J. E. Parker 1-B, second well for the Parker pool, Andrews County, has increased the column of oil in hole to 2000 feet in drilling to 4710 feet, or 1492 feet subsea. It is approximately 100 feet above the projected water level established by the partnership's discovery well.

Swabbing test given M. L. Richards et al's J. R. Sullivan 1, Garza County wildcat, yielded 33 barrels of oil daily from lime at 2940 feet. The lime horizon had been treated with acid. Plans are to deepen the hole. The well is located about 2½ miles southeast of Post and 2¾ miles northwest of a small producer. Richards et al have taken another block, centering on G. H. & H. Ry. Survey, Block 5, and have contracted with McGinley Corporation for the starting of an early test.

RECORD DEPTH TEST

Is plugged back to 9977 feet and may produce

San Angelo.—Conversion of Gulf Production Company's J. T. McElroy 103 into an oil producer from lower section of Pennsylvanian lime series loomed probable late last week after plugging back from 12,786 feet to 9977 feet. On 24-hour swabbing test the well yielded 35 barrels of oil and 57 barrels of water after perforating 7⅝-inch casing at 8130-70 feet and 8250-70 feet with 57 shot holes. Appearance of the oil plus the fact that the formation absorbed 3000 gallons of acid in 3½ hours under pressure averaging 1300 pounds is indicative of favorable porosity. The log of the well recorded excellent oil showings at the 8100-8200 level, and several cores were missed, but no tests were made. The well failed to yield production when casing was perforated with 100 shots at 9030-9120 feet and treated with 3000 gallons of acid.

Late report on the well revealed that the hole is being unloaded by swabbing through 2½-inch tubing. In the event the 8100-8200-foot lime failed to offer commercial production, the casing will be perforated at a higher level, with oil production definitely assured from the regular Permian lime zone at the 2800-foot level.

CHILDRESS COUNTY

Wildcat still trying to ascertain water source

Wichita Falls.—Tubing packers are to be installed to try and ascertain the water source in Alma Oil Company's Mollie Low 1, southeastern Childress County wildcat. Prolonged swabbing test through tubing and also casing from saturated lime pay at 5633-53 feet failed to exhaust the approximately 100 barrels of salt water appearing with about 50 barrels of high gravity oil daily. The well was responsible for a sizeable lease buying campaign last May by independents when it cored the lime horizon, and elaborate preparations were made to handle a big producer. Appearance of the water with the oil checked the buying wave, and caused a number of projected tests for the general area to be dropped. However, R. C. Larkin, G. D. Ware and others of Oklahoma City are proceeding with the drilling of their A. E. Gibson 1, C SE SE Section 507, Block "H," W&NW Ry. Survey, situated about five miles northwest of the above well, having progressed to the 1500-foot level.

Phillips Petroleum Company has given recognition to the production possibilities of the county from Canyon and Strawn sections of the Pennsylvanian lime as well as the Ordovician, and recently took lease on about 835 acres in the southwestern part of Childress County, centering on The Texas Company's C. L. Smith 1, abandoned in April, 1929, at 4571 feet.

Hardeman County has two active wildcats that are scheduled to test the Canyon lime, producing zone of the Childress County well. Lawrence S. Flannery, Inc.'s J. M. Williams 1, situated about 1½ miles south of Quanah, is drilling below 4850 feet. C. B. Duffield, H. C. Mortlock et al's S. I. Davenport 1, near east edge

of the County, has progressed to the 1500-foot level. In King County, Davis, Horwitz & L. C. Heydrick's R. B. Masterson 1, northeast corner of county, is preparing to resume after temporarily halting operations at 4130 feet, and will be carried to the 4500-foot level. The Foard County wildcat of Cowden, Fagadau and R. W. Lindsay Drilling Company on the Dallas Joint Land Bank land, has drilled to 2575 feet.

Later pumping gauge given Grace & Woods' J. H. Turbeville 1, Archer County's first producer in the lower Canyon lime section, reveals a daily yield of about 50 barrels of high gravity oil from sandy lime at 2827-36½ feet.

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TEXAS PANHANDLE
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
Bradshaw O&G Co., E. L. Sackett 3	369	3305
Continental Oil Co., C. Wright 10	300	2914
Kewanee O&G Co., R. E. Smith-Rest 12	322	3248
Southern Pet. Exploration, Inc., W. C. Archer 1	¶1-4	3310
Suloch Oil Co., J. S. Morse 6	55	2725
The Texas Co., J. C. Short 5	219	3020
P. A. Tharp & Dawson, J. C. Short-Conoco 2	304	3058
HUTCHINSON COUNTY—		
J. E. Crosbie, Inc., H. W. Pitts 7	294	2935
Dixon Creek O&R Co., E. Cockrell 3-K	249	2962
Gulf Prod. Co., J. A. Whittenburg 8-B	173	3014

*Failures; †Junked; ¶Million cu. ft. gas.

PANHANDLE WORK
Slumps due to imposing pipe line restrictions

Pampa, Texas.—Pipe line restrictions imposed by the two major purchasers serving the majority of the properties in western Wheeler County, most active drilling center in Texas Panhandle during past year, has temporarily halted virtually all field work. This accounts for the absence of the usual quota of big flowing wells lately, although a number of tests have been shut down for several weeks after drilling to the 2500-foot granite wash horizon awaiting pipe line connections.

The Texas Pipe Line Company adopted a policy in May whereby pipe line runs from new wells undergoing open flow production gauges to establish potential rating would be limited to a 24-hour period. Humble Pipe Line Company has since followed suit. Both companies now refuse to serve more than one well at a time while potential tests are made. The Railroad Commission's rules permit operators to flow their wells unrestrained for five days in establishing potential rating, thus making it possible for big wells to yield sufficient crude to amortize the entire cost. The pipe line companies claim that their service is disrupted by excessive deliveries from big wells, and that the stringent rules had to be imposed. Producers have the alternative of erecting tanks for open flow tests, then make deliveries to pipe line companies as proration quotas accrue.

Crude yield of the Bell Oil & Gas Company's Furneaux Brothers 1, SEc SE¼ Section 110, Block B-2, H&GN Ry. Survey, Gray County wildcat reported last week as opening a new pool on the south

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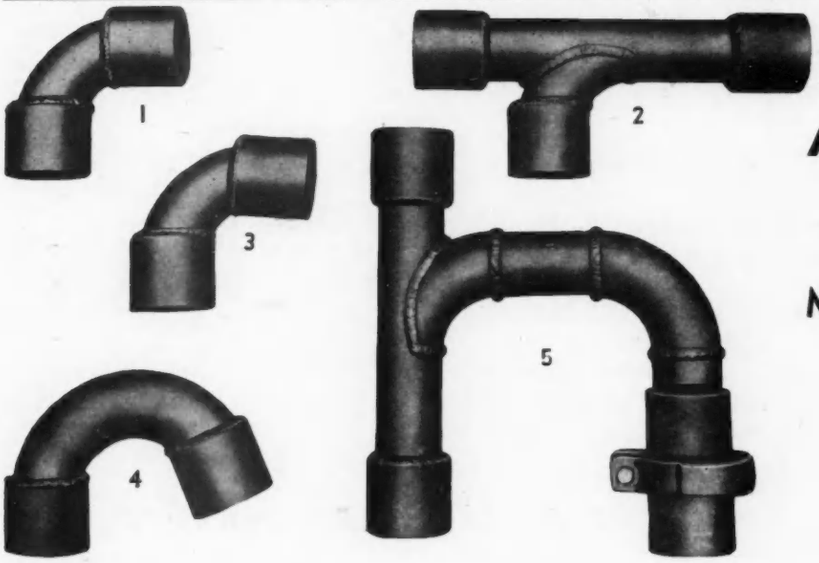
WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ECTOR COUNTY—		
Landreth Prod. Corp., Cowden et al, 1, sec 18	*	4470
O. B. Holt-Atlantic 1-B	120	4322
HOWARD COUNTY—		
Bond Oil Corp. et al, Rhotan-Texas L. & M. Co. 3	954	2752
The California Co., G. M. Dodge 3	123	2770
Iron Mountain Oil Co., C. D. Read 6	369	2794
JONES COUNTY—		
Campbell-Ellzey & E. Constantin, E. J. Neville 1	*	2498
PECOS COUNTY—		
Cardinal Oil Co., White-Baker 1, lse. 2	¶11	1790
Shell Pet. Corp., M. A. Smith 1-C.	100	1331
UPTON COUNTY—		
Gulf Prod. Co., J. T. McElroy 113	30	2995
J. T. McElroy 114	5000	2850
SCURRY COUNTY—		
C. T. McLaughlin et al, W. C. Allen 1	*	3009
WARD COUNTY—		
Sid Richardson et al, Johnson-Sun 22-B	510	2580
WINKLER COUNTY—		
Magnolia, J. B. Walton 8	435	2929
TP Coal & Oil Co., L. Daugherty 2	229	3060

*Failures; †Junked; ¶Million cu. ft. gas.



No. 1—90° pump elbow.

No. 2—Pump tee.

No. 3—95½° (derrick angle) elbow.

No. 4—Top standpipe elbow.

No. 5—Top standpipe elbow with connection for cushioning chamber.

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HOUSTON, TEXAS

flank of the buried granite ridge, increased to 10 barrels hourly for a brief period after deepening to 3160 feet, or 60 feet above sea level. The last five feet of granite wash formation accounted for the production gain. The output settled to about 75 barrels daily, according to reports. First oil production was found at 3064 feet. This wildcat is about 4½ miles southwest of a small wildcat producer completed last year by The Texas Company, and about six miles south of the Jackson-Bowers field. Bell Oil & Gas Company purchased lease on the NW¼ Section 102, and the Clayton-Hegaralle Oil Company, Wichita Falls, purchased lease on the SE¼ of the same section. A cash bonus of $25 per acre, and an additional $100 per acre payable from production, was involved in the two trades, according to reports.

Another wildcat oil producer for the south flank of the buried mountain range in Gray County is in process of completion. Eben D. Warner, Amarillo, and associates' C. T. Taylor 1, NWc SE¼ Section 8, Block "H," A. W. Wallace Survey, situated seven miles southeast of LeFors, is rated good for 100 to 150 barrels daily on swab from formation at 3009-18 feet.

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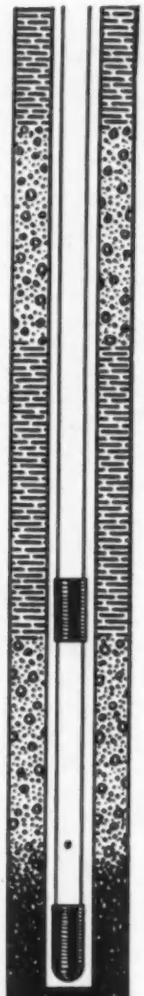
Houston.—Jack Frazier's Lynott Buffon 2, 7500 feet east of No. 1 and three miles north of Hardin, J. Robeson Survey, Liberty County, was plugging back from 7851 feet to 7550 feet to test sands from 7665 to 7681 feet which were not cored while drilling.



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See Composite Catalog of Oil Field Equipment; Pages 542 and 543

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LARKIN PACKER COMPANY, ST. LOUIS

LARKIN PACKER CO.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
Anderson Oil Co. et al, Abercrombie 6, blk 157	*	1220
L. T. Burns et al, Albers 3, blk 117	50	1249
Continental, Falls County 16-B	51	1127
Falls County 20-B	38	1126
Falls County 10-C	63	1125
W. J. Logan 12-A	76	1187
Hardesty & Elliott Oil Corp., F. Brazina 9, sec 2410	75	1440
W. T. Richardson 14, sec 2424	75	1445
Florey Oil Co., F. Brazina 4, sec 2410	50	1441
Florey & Lumpkin, G. E. Fichte 1, blk 27	*	1508
W. B. Hamilton Pet. Co., W. Pace 29, blk 100	75	1160
W. Pace 32, blk 101	*	1192
J. M. Powell 3, blk 97	60	1143
G. S. Kent et al, T. J. Dempsey 1, blk 10	*	540
Martin & Hines, Wm. Justice-Conoco 3, blk 2	45	1103
Chas. Percifield et al, Ward Bros 1	*	1064
Perkins-Cullum Oil Co., Falls 182, blk 6	450	1177
Pet. Prod. Co., Portwood 1-G, sec 1587	*	1458
White & Duncan, S. Webb 6-B, blk 4	10	726
S. Webb 7-B, blk 4	10	697
BAYLOR COUNTY—		
C. P. Sheldon et al, F. Gatski 1, sec 2477	*	1700
CLAY COUNTY—		
Regal Oil Co., G. H. White 1	*	751
COOKE COUNTY—		
Fain-McGaha Oil Corp.,A. A. Otto 4	*	1307
Pet. Prod. Co., W. H. Campbell 1	*	995
Pois & Schultz, T. H. Sears 1	*	1960
DENTON COUNTY—		
A. E. Pierson et al, H. F. Fangman 1	*	1520
GRAYSON COUNTY—		
E. V. Abernathy et al, E. Christman 1	*	915
JACK COUNTY—		
J. M. Bloodworth et al, C. S. Swasey 1, sec 2	*	370
MONTAGUE COUNTY—		
Bridwell Oil Co., W. W. Radford 1	*	2568
Raisen Bros., G. Hinton 5	4	802
WICHITA COUNTY—		
Blair & Schlaffke, Honaker 4, sec 3	10	1072
Waggoner Ref. Co., Waggoner Est. 6-X, blk 2	*	2024
WILBARGER COUNTY—		
Riner & Massie, Waggoner Est. 11-A, sec 22	320	1876
Waggoner Est. 12-A, sec 22	330	1908
WISE COUNTY—		
F. P. Tatum et al, Dr. Workman 1	*	455
YOUNG COUNTY—		
L. T. Burns et al, J.L . Castleman 2, sec 72	*	1300
R. Clampitt et al, Perkins-Routon 1, sec 21	*	776
R. W. Clampitt et al, N. B. Peters 1	*	830
B. C. Gilmore et al, S. S. Wallace 1	*	609
S. D. Glover et al, C. W. Johnson 18	5	535
L. G. Hawkins et al, J. M. Kirkland 4, sec 2249	*	742
E. R. Perkins et al, Neal Wilburn 1, sec 1597	*	1405
Sams & Kuebecka, Cullers 4, blk 25	*	590
Westheimer & Daube, B. H. Larrimore 13, sec 2247	*	723

*Failures; †Junked; ¶Million cu. ft. gas.

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MERCEDES FIELD

San Antonio.—Union Sulphur Company is encountering considerable difficulty with its work-over projects in the new Mercedes field of Hidalgo County.

American Rio Grando Land and Irrigation Company 1, 1½ miles northeast of the discovery well, had drill stem stuck in the hole at 6431 feet. Efforts to pull it failed and finally it twisted off. The well has been plugged back to 2400 feet and will be sidetracked.

Same fee 2, on the same block with the discovery well, is drilling in sidetracked hole at 5790 feet. The total depth of 8044 feet.

Duval Activity

WITH 35 RIGS LEADS SOUTH TEXAS AREAS DEVELOPMENT

WEEKLY STAFF REPORT

San Antonio.—Duval County takes the position of leader in South Texas drilling operations with 37 active rigs reported in field and wildcat areas. The majority of the work is in the Government Wells-Loma Novio district, although the other areas share in the development program.

Bridwell Oil Company's J. D. Sutherland 1-A, located 990 feet south line and 330 feet east line of west half Section 122, tested for an oil producer at 2697-2712 feet and is in process of completion. This well is located 1320 feet due west of the same operator's Sutherland 2, which made an oil producer in the same sand, but which went to salt water after flowing several days. The new test is on a 40-acre tract obtained from the Sun Oil Company. If this well is a commercial oil producer, it will be the first for the Hoffman field.

Continental Oil Company's Clara Driscoll Sevier 5-A, Section 54, northwest of other 2900-foot production in the Driscoll field, is flowing 135 barrels of oil per day, via gas jet from 2897-2904 feet. This well leads the way to further development of this sand in the Driscoll pool.

The other district holding particular attention for possible extensions is the Seven Sisters field in the northern portion of the county. Dulce Oil Company's R. Serna, Jr. 1, Section 384, southwest offset to the discovery well, showed only a small amount of oil in the Hockleyensis sand at 2220 feet and was deepened to the Government Wells horizon, topping it at 2430 feet. Sand and sandy shale was cored to 2451 feet. A drill stem test is being made at the lower level.

More than one half mile southwest of Dulce Oil Company well, Humble Oil & Refining Company's Temple D. Smith 1, Section 382, is bottomed at 2134 feet, reaming for a drill stem test. It holds the key to the situation on the west side of the new field.

Humble Oil & Refining Company provided several new producers in the Loma Novio field. Ruiz Estate 5 made 250 barrels per day through gas jet at 2775 feet; J. F. Welder 2-C, Section 73, pumped 380 barrels per day from 2687 feet; Hubbard 1 completed for 192½ barrels per day on gas-lift at 2817 feet. Buchanan & Blanco Oil Company's Ruiz 5, Section 73, is good for 100 barrels per day, via gas jet, at 2695 feet. Stieren Oil Company's Wright et al 2, Section 72, is a 15-barrel per hour well at 2715 feet, flowing via jets.

The Loma Novio field operations are divided among the operators as follows: Buchanan & Blanco Oil Company, 1; Rodney Delange, 1; Duval Oil Corporation, 1; Frank Gravis, 1; Humble Oil & Refining Company, 3; Magnolia Petroleum Company, 1; Shell Petroleum Corporation, 1; Stewart et al (Parr Oil Company), 1; Stieren Oil Company, 1; Texas Company, 1; Texla Oil Company & Rosan, 1; E. R. Thomas, 1.

•

JIM WELLS COUNTY

San Antonio.—After standing several weeks at 6010 feet, Magnolia Petroleum Company's A. A. Seeligson 6, in the Premont field of Jim Wells County, is cleaning out to drill deeper. It encountered several fair showings in upper sands, both oil and gas, and likely will be carried considerably before being abandoned should it fail to make a producer.

NEW SAND AT SAXET

Established by well good for 10 barrels per hour

San Antonio.—A new producing sand lens, 150 feet higher than the main horizon of the field, was established in the Saxet area, Nueces County, during the week. J. K. Culton et al's J. & R. Sagarin 2, a work-over, flowed at the rate of 10 barrels of pipe line oil per hour through ⅛-inch choke from sand at 4725-36 feet. The well is showing pressures of 475 pounds on the tubing and 750 pounds on the casing.

At present, the main producing horizon in the field is just below 4850 feet, where a number of excellent new producers are being completed.

The new producer is a work-over of a well originally drilled by Gulf Coast Oil Company. It was plugged back to 2000 feet, sidetracked and re-drilled to the new sand. The well is in the extreme northwestern portion of the field and is just west of several excellent producers in the 4850-foot sand.

This new strike balances with some very disappointing news from a hot wildcat test being drilled by Magnolia Petroleum Company four miles south of the town of Clarkwood, which is the south boundary of the Saxet field. The company's Bobby Baldwin 1, NW corner J. S. McGregor Survey, No. 39, cored sand at 3231-38 feet, elevation 58 feet, derrick floor, and showed 150 feet of salt water, with 100 pounds pressure in 10 minutes. It is shut down for orders, but likely will be carried deeper. This well cored the sand about a week ago, but was shut in. Considerable leasing was done in the vicinity at fancy prices, Magnolia Petroleum Company being the main buyer. The prices in several cases were said to be between $50 and $100 per acre cash and a like amount out of oil.

VICTORIA COUNTY

Wildcat flows salt water when drilled too deep

San Antonio.—E. L. Smith Oil Company and Gulf Production Company's Henderson & Pickering 1, wildcat in Victoria County, flowed salt water at 4805 feet, when a mistake in drill pipe measurements caused the well to be drilled too deep.

This test is located in the Brunson Survey, 1½ miles south, 60 degrees west of Eastern States Oil Company and Costa Oil Company's J. E. Schovajsa 1, which is attempting to complete in the same sand at 4775-89 feet. The Schovajsa well is one mile southwest of the discovery well of the Placedo field.

The Henderon & Pickering wildcat topped sand at 4764 feet, and at 4777 feet made a drill stem test, showing for an oil well. When drilled in, the drill pipe measurements were off 28 feet, accounting for the hole being bottomed at 4805 feet.

Magnolia Petroleum Company's Henderson & Pickering 1, east offset to the discovery well of the Placedo field, made a drill stem test at 5975-6021 feet, which showed dry, and was coring below 6025 feet at last reports.

PORT LAVACA POOL

Discovery offset drills into water; plugs back

San Antonio.—The Texas Company went too deep in W. A. Shofner 1, M. Sanchez Survey, south offset to the Port Lavaca field, Calhoun County, discovery well. It made salt water upon completion at 6262 feet and has been plugged back to 6245 feet, where it is waiting on cement. Casing is set at 6232 feet.

Empire Gas and Fuel Company's Hartment 1, west of the discovery, is drilling at 4235 feet. Halliburton Oil Production Company's D. Burton 2, south offset to Burton 1, cored hard

sand and shale at 6185-6200 feet and is coring ahead for the oil sand. Steinberger Petroleum Corporation has started Shofner 2, on the same tract with the discovery oil well.

Several miles southwest of the field in the Martin well area. The Texas Company's Hackney 1, B. Rodriguez Survey, is drilling in sticky shale at 5060 feet.

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SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BASTROP COUNTY—		
Joe Mills et al, H. Litton 2, A. Navarro sur (N. Cedar Creek)...	200	1624
BEE COUNTY—		
Earl Callaway et al, I. J. Miller 1, 330 ft sl, 937 ft nl, tr 9, 674-ac tr, Cayetno Rivas sur	*	4610
Dirks Bros., R. C. Harris 3, C. A. Dugat sur (Dirks)	750	3885
Humble O&R Co., Thompson 2, 466 s and w of se cor of Wood 4026-ac tr, Garrett Roache sur	†	5987
McAllister Fuel Co., W. J. Vaughn 2, F. Lewis sur (Caesar)	200	3051
El Toro Oil Co., E. Gardner 3, F. Lewis sur (Caeser)	125	3038
United Prod. Co., G. A. Ray 50, begin s cor W. J. Porter sur, thence nw along swl 2100 ft, thence 540 ft sw at rt/a in Geo. A. Kerr sur	*	4151
CALHOUN COUNTY—		
Texas Co., Geryk 1, 470 ft sel, 1400 ft nel 61-ac tr, Y. Benevides sur (Port Lavaca)	*	6711
E. P. Kupatt 1, 466 ft swl and sel 81.5-ac tr, in the Y. Benevides sur (Port Lavaca)	*	6322
DUVAL COUNTY—		
Buchanan & Blanco Oil Co., Ruiz 5, sec 75 (N. Loma Novio)	110	2695
Continental Oil Co., C. D. Sevier 5-A, sec 54 (Driscoll)	135	2904
Government Wells Oil Co., Lundell-State 14, sw se sec 48 (Gov't Wells)	*	lcn.
Humble O&R Co., M. C. Hubbard 1, sec 84 (S. Loma Novio).....	192	2817
Ruiz 5, sec 553 (S. Loma Novio)	250	2775
J. F. Welder 2-C, sec 73 (N. Loma Novio)	380	2687
Magnolia, Bennett 2, 887 ft sl, 664 ft el most sw part sec 432.....	*	3784
Alice Leffler 2, sec 47 (Gov't Wells)	60	2269
W. C. Riggs 1, sec 46 (Gov't Wells)	12	2353
Seaport Oil Co., Duval Ranch 7-A, sec 574 (Sarnosa)	60	2408
Stieren Oil Co., Wright et al 2, (N. Loma Novio)	375	2715
GOLIAD COUNTY—		
Walter Taber, C. C. Hanley 1, 370 ft s, 200 ft w of sw cor Hanley 104-ac tr, John Daly sur 15.....	*	4550
HIDALGO COUNTY—		
Hardy & Lynch, Southland Dev. Co. 1, 330 ft nl and wl blk 14, sec 17	*	rig
W. F. Lacy, E. Flores 1, sh 266, por 38 (Samfordyce)	150	2787
LIVE OAK COUNTY—		
Darby Pet. Co., McNeill 1, GH&H Ry sur (McNeill)	*	5243
Feltner, Lefevre & Spice, Carter Inv. Co. 1, 330 ft sl and wl ne¼ sec 299, Hooper & Wade sur	*	4252
Marine Oil Co., E. S. Adair 1, 330 ft nl, 800 ft wl of tr, J. McGloin sur (N. Lucas)	*	5350
MAVERICK COUNTY—		
Geo. Andrews et al, Matthews 1, 150 ft wl, midway nl and sl of 40-ac tr, nw cor of B. C. Flowers sur	*	610
McMULLEN COUNTY—		
Henderson Coquat, Ezzell 1, D. R. Fant sur (S. Calliham)	¶½	768
Loma Oil Co., J. Dickinson 1, 880 ft sel and nel of Farm tr No. 13, B. Sparks sur	*	950
C. C. Shumway et al, Shiner Ranch 8, 330 ft el, 2310 ft sl of sec 53, Shumway sub	*	1905
Texas Inland O&G Co., H. L. Lark 3, Lark sub, blk 133, E. W. B. Scrugham sur (Jacob)	40	988
Harry Wilder et al, Wm. Fahler 1, 1740 ft nl, 170 ft wl of 1000-ac tr, Geo. Pittuck sur	*	1304
NUECES COUNTY—		
J. K. Culton et al, J. & R. Sagarin 2, CEPI&M sur (Saxet) 1000		4736
Houston Oil Co., Rand Morgan 3, sec 7, Range 5 (Saxet) 750		4868
REFUGIO COUNTY—		
United Prod. Co., M. F. Lambert 20, blk 10, Carr & Connell sur (Greta)	250	4387
SAN PATRICIO COUNTY—		
Plymouth Oil Co., E. H. Welder 2-C, sec 49, Welder sub (Plymouth) perf csg 5630-34 ft.....	450	5636
STARR COUNTY—		
Armstrong, Emanuels & Adams, SCCC 1, blk 57, por 89 (Barbacoas) wo	*	2715
WEBB COUNTY—		
Magnolia Pet. Co., S. Benevides 1-X, blk 185, M. E. Hale sub, Mariano Arispe gr (Cole)	200	2768
WILLIAMSON COUNTY—		
Johnson & Ray, M. S. Oxford 1-B, 600 ft s No. 1-A, 208.5-ac tr, Williams sur	*	lcn.
McGee et al, J. Heal 1, 3100 ft swl, 3250 ft nwl P. Cartwright sur...	*	1040
A. T. Parr et al, Dan Murphy 1, 150 ft sl and el W. J. Cowan sur	*	1265

*Failures; †Junked; ¶Million cu. ft. gas.

SINTON COMPLETION

Rated at 15 barrels per hour on small choke

San Antonio.—Plymouth Oil Company's E. H. Welder 2-C, Section 49, just east of the discovery well of the Sinton field, San Patricio County, is a completion, rated at 15 barrels per hour through 3/16-inch choke. The well is bottomed at 5636 feet with casing perforated at 5630-34 feet. It is showing a large volume of gas.

Same company's Welder 4-C, Section 48, topped the sand at 5597 feet and is coring around 5620 feet. Four other active operations are reported by this company in the Plymouth pool.

Heep Oil Corporation Welder 2-E is preparing to drill plugs, having set casing in sand. The depth is 5667 feet. The concern is drilling Welder 3-E.

Violet Oil Company and Benson & Jones are each starting outpost wells in the Sinton district.

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GOOD DIRKS WELL

San Antonio.—Dirks Brothers R. C. Harris 3, Dirks field, Bee County, is rated at 30 barrels per hour through ¼-inch choke from sand at 3878-85 feet. It is one of the best producers in the field. Same operations are near the sand on two more wells in the same field.

One half mile northeast of the field, L. A. Douglas is drilling at 1800 feet on Imogene Hall 1, Butler Survey. It is probably the most important operation in the immediate area at this time.

Both the Dirks and West Tuleta fields continue to provide excellent new producers. Five wells were in process of completion near the close of the week, with nine others drilling at various depths, making a total of 14 active operations in the two fields.

WEBB DISCOVERY

Well is shut in awaiting erection of storage tanks

San Antonio.—Mills Bennett's J. Lopez 1, discovery well of new field in Webb County, was shut in late in the week while storage was being erected and high pressure separator installed.

The well was completed as a gasser at 2139-44 feet, June 23, showing a volume of probably 10,000,000 cubic feet per day with a slight spray of oil. It showed a tubing pressure of 770 pounds through ¼-inch choke, 630 pounds through ½-inch choke and 755 pounds through 5/16-inch choke. The oil volume continued to increase and now it is believed that the well will make a commercial amount of oil when run through a separator. The oil is 22 gravity, typical of the Mirando district. The sand is the Mirando series of the middle Jackson formation.

The new producer is located 1320 feet from the west line and 2500 feet from the south line of section 73 and is 10 miles north of the town of Bruni.

A new location has been made for Lopez 2, about 660 feet southeast of Lopez 1, which should be sufficiently down dip from the producer to provide a larger volume of oil.

PEARSALL EXTENSION

Test half mile south of field is coring oil sand

San Antonio.—A one half mile southeast extension to the producing area of the Pearsall field, Frio County, was considered likely late in the week with Amerada Petroleum Corporation's Kothmann 1 coring in oil sand topped at 3953 ft. The well is in the B. L. Crouch survey 90/9.

About 1½ miles farther south, Midland Oil Company's San Antonio Joint Stock and Land Bank 1 was drilling at a shallow depth. It now is the key well in the field so far as the Navarro sands at 3950 feet are concerned.

Amerada Petroleum Corporation's W. H. Smith 1, Mason Survey No. 322, 4½ miles southwest of the field, made a drill stem test in the Austin chalk at 5400-5443 feet, which showed oil, gas, mud and fresh water, and is being drilled deeper.

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REFUGIO COUNTY

San Antonio.—United Production Company added another excellent producer to its Greta field properties, Refugio County, during the week with M. F. Lambert 20, Block 10, Carr and Connell Survey. The well flowed 10 barrels per hour through ¼-inch choke, showing tubing pressure of 400 pounds and casing pressure of 1300 pounds. It is in sand at 4381-87 feet.

Wharton County

FIRST PIERCE ESTATE FRIO FORMATION PRODUCTION

WEEKLY STAFF REPORT

Houston.—If performance of The Texas Company's Pierce Estate A-2 is an index to what may be expected from the Frio sands underlying surrounding acreage, then that wildcat last week presented the Texas sector of the Gulf Coast with a new oil field in Wharton County.

June 24, 1935, the well came in making 12 to 18 barrels of fluid per hour from the Frio sands found at 4693 to 4704 feet. The fluid contained 40 percent drilling mud, basic sediment and oil with the remaining 60 percent wash water. The flow was through a quarter-inch choke with 1640 pounds on the tubing and 1890 pounds on the casing. The well showed a large volume of gas, and no salt water.

The well now has been killed due to the high gas/oil ratio. A leak was developed in the nipple under the master valve. The operators will pull screen and drill a few feet deeper and cement liner and perforate at the bottom of the hole. The leak in the master valve nipple will be repaired.

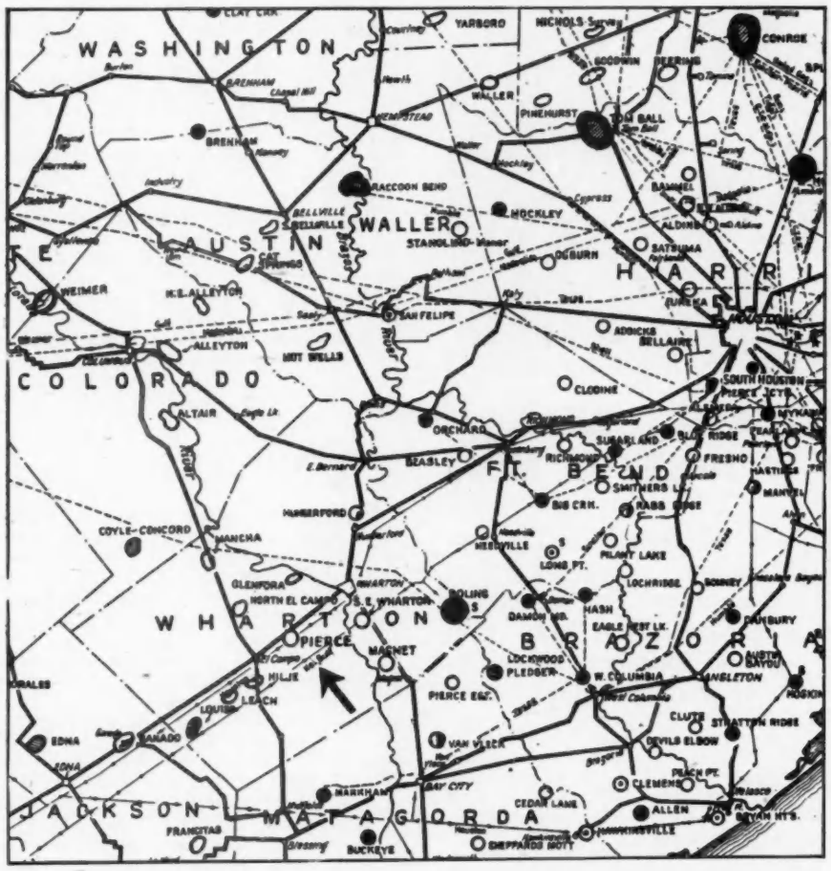
Plugs were drilled on the test on June 22, 1935, and the setting was made with 2½-inch tubing hung at 4704 feet. Previously the wildcat had shown 550 pounds on a drill stem test from 4693 to 4699 feet.

The wildcat is located on the Pierce Estate which consists of several thousand acres which is being operated by The Texas Company. The possible discovery well is located 2100 feet north of A-1, 2425 feet south and east and 4400 feet north from the west corner of Block A-405, in the I&GN Survey, Section 39, Wharton County. It is east of the town of Pierce.

No arrangements have been made for a pipe line into the area, as the well has not shown sufficient evidence to warrant a line at present. Several storage tanks have been constructed to take care of the production at present.

The well topped the Discorbis from 3987 to 4017 feet, Heterostegina from 4322 to 4350 feet and the Marginulina at 4366 feet.

Pierce Estate A-2 was the second well drilled in the area by The Texas Company. The first test drilled was abandoned at 6584 feet in the Frio formation, having topped that formation at 4700 feet. Pierce Estate A-2 was running approximately 65 or 75 feet higher than the abandoned test in the Discorbis and Heterostegina determinations and allowing for a dip of approximately 35 or 40 feet would place the discovery well in the top of the Frio formation. Several are calling the production sands the lower Marginulina sands, but the majority place the sands in the top of the Frio formation. The well will be drilled deeper into the formation.



Arrow shows location of Pierce, in Wharton County, Texas Gulf Coast, where production possibilities are indicated.

VAN VLECK FIELD

Houston.—Skelly Oil Company's Cobb B-3, Van Vleck field, M. Cummings Survey, Matagorda County, was setting 9⅝-inch casing at the close of the week, after making a drill stem test which showed 450 feet of mud and oil.

The test was made from 7045 to 7100 feet in Marginulina formation in 10 minutes through quarter-inch chokes. The well showed no pressure. The operators are setting the casing at 7108 feet. Top of sand was found at 7045 feet.

DICKINSON FIELD

Receives two additional oil wells during week

Houston.—Two new producers were added to the Dickinson field, Galveston County, during the past week by Humble Oil & Refining Company when it completed E. E. Townes 1, and C. Fugger 1.

E. E. Townes 1 came in for 500 barrels of 35.4 gravity oil per day from 8062 feet. The flow was through a quarter-inch choke with a tubing pressure of 1350 pounds; casing 2300 pounds. The gas-oil ratio was 1480 to one. The oil sand was topped at 8026 feet and seven-inch casing was cemented at 8018 feet. Top of the Discorbis was found at 6408 feet, Heterostegina 6812 feet and the Marginulina at 7137 feet. The test is located approximately 1200 feet southeast of Pure Oil Company's Schelor 1, and 430 feet east of the west line and 500 feet north of

the north bank of Dickinson Bayou in the B.B.B.&C. R.R. Survey.

Clyde Fugger 1 was completed as an oil producer, making 283 barrels per day through a three-eighths-inch choke with 225 pounds on the tubing and 900 pounds on the casing. The oil was 37 gravity. Casing was perforated from 8075 to 8081 feet, the latter depth being the bottom of the hole. The test is located approximately 1000 feet east of Humble Oil & Refining Company's Jones 1, and 138 feet east of the west line and 500 feet south of the north line of 15-acre tract in J. S. Sherman Survey.

Humble Oil & Refining Company's Maco Stewart A-2, 1600 feet south and little east of the discovery well, J. Sellers Survey, made a drill stem test during the past week from 8438 to 8627 feet and received 12 thribbles of gas cut mud with a 950-pound pressure.

The test was made in 15 minutes through quarter-inch choke on bottom and a three-eighths-inch choke on top.

The same operator's Maco Stewart B-2, 610 feet southeast of A-1, J. Sellers Survey, showed 13 thribbles of oil and mud on a drill stem test from 8040 to 8063 feet during the past week. The well also showed a 1700-pound pressure. The test was made in 27 minutes through quarter-inch chokes.

Humble Oil & Refining Company has made location for Maco Stewart A-6, being 6087 feet south of the northeast corner and 1390 feet west of the east line and 466 feet north of the south line of Stewart 863-acre tract.

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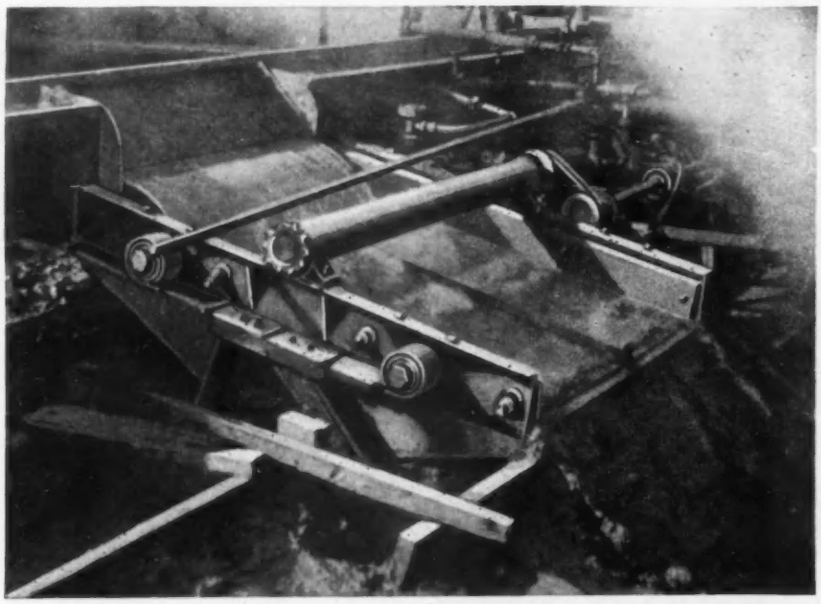

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HASTINGS FIELD

Stanolind completes new well doing 220 barrels

Houston. — Another producer was added to the Hastings field, Brazoria County, during the past week when Stanolind Oil & Gas Company completed Turner 1, for 220 barrels per day at 6100 feet.

When the well came in, it made 37 barrels the first five hours through a 9/64-inch choke with 700 pounds on the tubing and 550 pounds on the casing. On the first 24 hours it made the above initial production with a tubing pressure of 800 pounds; casing 500 pounds. The allowable for the well is 150 barrels per day. The test is located 695 feet north of the south line and 2550 feet east of the west line of A. C. H. & B. Survey.

To the west of Alvin, in Brazoria County, an interesting lease play continues in progress. An independent oil operator has assembled approximately 3500 acres. This area has been interesting for some time and several of the major oil companies have worked the acreage with geophysical instruments.

●

EAST MYKAWA

Houston.—Sterling Oil & Refining Company completed a nice producer in the East Mykawa field during the past week when it brought in B. H. Williams 1 for 530 barrels per day from 4480 feet. The flow was through a 5/16-inch choke with 425 pounds on the tubing. The test is located 200 feet from the west and east lines and 915 feet north of the south line of 29-acre tract in the Wm. Lovett Survey A-526.

Flanigan Drilling Company has made location in the field for Minnetex 1, 150 feet out of the northeast corner of Wm. Lovett Survey, A-526, block 261.

West Production Company's Lee 1 is located 200 feet out of the northwest corner of W. R. Wilson Survey, being between Lang 1 and Speck 1.

●

MONTGOMERY WELL

Houston.—Gholson et al's A. Parks 1, northwest of Willis, J. Lindley Survey, Montgomery County, was attracting considerable attention among the Texas Gulf Coast operators when the operators swabbed some live oil out of this important wildcat.

The operators are unable at present to make the well kick off when the swab is run. When the test is closed in it builds up a pressure from 100 to 360 pounds and when it is opened up the pressure decreases. The fluid rises around 3000 in the hole but pressure is not great enough to make the well flow. The well would make heads at certain times and blow oil up to the crown block. It is undertermined what the operators will do with the test. The bottom of the hole is 3769 feet where the wildcat showed oil.

WALLER COUNTY

Houston.—Diadem Oil Company's W. W. Urban 1, northeast of Waller, James Cooper Survey, Waller County, was abandoned during the past week at 4905 feet after testing salt water in the Cockfield formation from 4762 to 4784 feet. The bottom of the hole was 4905 feet.

•

GRIMES COUNTY

Houston.—A new wildcat location was announced for Grimes County during the past week when Dillinger and Hammer made location for Lane 1, 150 feet south of the north line and 150 feet west of the east line of 65-acre lease in the east side of the county in the R. P. Stewart Survey.

•

NINE COAST WELLS

Houston.—Completions along the Texas Gulf Coast took a slight drop during the past week as compared to those of the previous week. There were 15 completions reported in the area and of that amount nine resulted in producing wells with an initial production of 4380 barrels per day. The remaining six wells were reported as failures.

•

TEXAS GULF COAST

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
DICKINSON—		
Humble, Fugger 1	283	8081
E. E. Townes 1	500	8062
EAST MYKAWA—		
Sterling O&R Corp., B. H. Williams 1	530	4420
HANKAMER—		
Gulf, Boyt 20	300	2615
HASTINGS—		
Stanolind, Turner 1	220	6100
HUMBLE—		
Sun, Bender 29	*	4349
LOST LAKE—		
Pure, Mayes 19	60	2806
RACCOON BEND—		
Humble, Thompson 17-X	1848	4097
THOMPSON—		
Gulf, Hammerstrom 10	200	5390
TOMBALL—		
Humble, Hillegeist A-1	440	5568
HARRIS COUNTY—		
E. E. Young, Burt & Griffith 1, G. S. Garner sur	*	2580
LIBERTY COUNTY—		
Extension Oil Co., J. A. Lovett 1, P. P. Dever sur	*	4049
SAN JACINTO COUNTY—		
Ralpha Stern, R. B. Love Estate, n of Cold Springs, D. McGee sur	*	lcn.
Turnbull & Irwin, Moore 1, J. D. Martinez No. 3 sur	*	4873
WALLER COUNTY—		
Diadem Oil Co., W. W. Urban 1, ne of Waller, James Cooper sur..	*	4905

*Failures; †Junked; ¶Million cu. ft. gas.

Deep Roanoke Test

WILL DETERMINE 10,000-FOOT POSSIBILITY DURING WEEK

Lake Charles.—The most closely watched and the most interesting well in the Louisiana Gulf Coast at present is Shell Petroleum Corporation's Jarnigan 1, Roanoke field, Jefferson Davis Parish.

This test is important because, if it comes in as a producer, it will be recognized as one of the deepest producing oil wells in the world. At the end of the week the operators were drilling plugs at 9985 feet to make a production test. The coming week should tell if the well will be a deep commercial producing record.

Jarnigan 1 was spudded in a little over a year ago and was drilled to a depth of 10,001 feet. At 8586 feet a core was taken down to 9688 feet, and showed sand with an odor of oil. An electrical logging device was run and found sand showing oil from 8744 to 8454 feet. A drill stem test was made and the operators recovered 570 feet of oil with a large gas volume. The test was made in 10 minutes through quarter-inch chokes on top and bottom. Screen was set and the well came in for 10 barrels of fluid per hour making 85 percent salt water and 15 percent oil through a quarter-inch choke with a 100-pound pressure on the tubing. Later the well made 97 percent salt water.

The well was then killed and deepened to 8765 feet, where a core was taken to 8774 feet, which was sand showing oil. The bottom of the hole at this time was 8800 feet. It was plugged back to 8745 feet and redrilled to 9212 feet.

A drill stem test was made from 9205 to 9211 feet, which showed only salt water through a quarter-inch choke on top and a ⅜-inch choke on bottom. The hole was then carried down to 9909 feet.

At 9999½ Feet

At 9900 feet it is reported that orders were given to take the well to 10,000 feet, and if nothing was found it was to be abandoned. A soft sand was encountered at 9999½ feet and the hole was carried to 10,001 feet, where the well tried to blow out while coming out of the hole with a core that showed oil and gas.

Operators pumped in 2000 sacks of special drilling mud and called in a cementing company to pump the mud into the hole. While the hole was trying to blow the operators stuck a drill stem at 9990 feet with the top of the fish at 8746 feet. Seven-inch casing was cut at 7600 feet and the hole was plugged back to 7485 feet from 7590 feet. Casing was perforated from 7445 to 7771 feet and a test showed salt water. The operators sidetracked at 7565 feet and drilled to 9986 feet and took a core from 9980 to 9986 feet which showed oil and gas. While attempting a drill stem test the drill stem stuck at 7700 feet. Finally seven-inch casing was set at 9985 feet.

The well is located 660 feet east of the discovery well and 660 feet south and 300 feet east of the NWc of NE¼ of Section 12-9s-4w.

To the southeast of the Roanoke field in the area of Jennings it is reported that one company has spent over $140,000 on a block of acreage and the company during the past week closed a deal for 729 acres paying from $50 to $75 per acre. On the eastern end of the block an independent has over 1000 acres which carries a drilling obligation. The test will be drilled around Section 17-10s-2w.

To the northwest of Iowa, in the same parish, an independent operator has taken several thousand acres, and has farmed some acreage from a major oil company to drill a well 3½ months from July 1, 1935.

LOUISIANA COAST

Lease activity continues to lead Gulf belt area

Lake Charles.—The Louisiana coastal area continues to lead in the Gulf Coast in leasing and geophysical work. Territory east of the Mississippi river is getting a big play that is centering around Livingston Parish.

Lease brokers from all parts of the country are moving into Baton Rouge. All the brokers are taking large blocks and turning them to major oil companies, while several are taking blocks on drilling obligations. During the past week one report shows over 600,000 acres taken for geophysical work and straight commercial leases.

The State of Louisiana put up for bids approximately 470,000 acres around several of the large lakes and it is reported that one of the major oil companies had these state lands put up for lease.

During the past week there were 40 geophysical crews at work in the different parishes. Fourteen were torsion balance crews, 24 reflection, one Pendulum and one magnetometer.

LAKE PELTO FIELD

New producing sand is found by 876-barrel well

Lake Charles.—A new producing sand was discovered in the Lake Pelto field, Terrebonne Parish, during the past week when The Texas Company's State Lake Pelto 12, Section 12-17s-18e, came in for 876 barrels per day from 6275 feet.

The hole was originally drilled to 7039 feet in heaving shale. While drilling and setting a new deep record for the field the operators encountered an oil show at 6255 feet and on a core from 6400 to 6402 feet. from 6409 to 6411 feet and from 6422 to 6436 feet. An electrical logging device was run, and showed sand containing oil from 6661 to 6666 feet. A drill stem test was

made from 6627 to 6717 feet which showed nine thribbles of salt water.

The deep test was plugged back to 4383 feet and drilled to 6056 feet and then plugged back and side tracked at 5241 feet. The hole again was plugged back to 2595 feet where a drill stem was stuck. The hole was cleaned and was carried down to 6770 feet in the side tracked hole. The oil sand was topped at 6248 feet and a drill stem test was made which showed 21 thribbles of pipe line oil with no water.

Seven-inch casing was set at 6230 feet. The well was later washed and came in for 876 barrels of 36 gravity oil per day through 3/8-inch choke with 750 pounds on the tubing.

With the completion of this test it makes the fourth producer for the operators in the field and 10 failures.

●

CROWLEY FIELD

Lake Charles.—Humble Oil & Refining Company's Rice Milling Company 1, south of Crowley field, Section 27-10s-2e, made a drill stem test during the past week from 5654 to 5720 feet and recovered 60 barrels of fluid, 20 percent oil and 80 percent salt water. The test was made in 45 minutes through a quarter-inch choke on top and bottom.

The hole then was deepened to 9308 feet where a drill stem was stuck at 9278 feet. The drill stem was shot at 6500 feet and the hole plugged back to 5720 feet, where the casing was perforated from 5684 to 5699 feet with 20 holes.

●

BAYOU ST. DENIS

Lake Charles.—The Texas Company has made its second location in the new Bayou St. Denis field, Jefferson Davis Parish. The test will be known as the Rigolet Cooperative Fur Trapping Company 1. It is located 400 feet south of the discovery well in Section 19-17s-24e.

●

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CAILLOU ISLAND—		
Texas Co., State Calliou Island 23	1200	4962
EAST HACKBERRY—		
Texas Co., State East Hackberry 15	750	6826
GILLIS—		
Union Sulphur, State 6	*	7731
IOWA—		
Shell, Tuton 4	680	6698
LAKE BARRE—		
Texas Co., State Lake Barre 36 ..	1155	3788
LAKE PELTO—		
Texas Co., State Lake Pelto 12....	875	6275
LEESVILLE—		
Texas Co., L. L. E. Leesville 27...	1050	4591
L. L. E. Leesville 34	1025	3717
NEW IBERIA—		
Iberia Oil Co. & Y. D. Spell, A. M. Bernard 2	*	3846
BEAUREGARD PARISH—		
C. E. Drilling Co., Long Bell Lbr. Co. 1, w of Ludington, sec 26-2s-8w	*	5899

*Failures; †Junked; ¶Million cu. ft. gas.

CALCASIEU PARISH

Lake Charles.—The second failure for Union Sulphur Company in the Gillis field, Calcasieu Parish, was reported during the past week when the company abandoned State 6, in water sand at 7731 feet. The well is located 1500 feet south and east of the discovery well and 1672 feet north and 1290 feet east of the southwest corner of Section 12-9s-8w.

●

SORRENTO FIELD

Lake Charles.—Athens Oil Company has made location for United Lands 2. Sorrento field, Ascension Parish, during the past week after bringing in United Lands 1, to extend the field the previous week. United Lands 2 is located 1600 feet south and 1830 feet west from the northeast corner of section 15-10s-4e.

●

BEAUREGARD PARISH

Lake Charles.—C. & K. Drilling Company and W. D. Christian's Long Bell Lumber Company 1, six miles west of Ludington, Section 26-2s-8w, Beauregard Parish, was completed as a dry hole during the past week at 5899 feet. The wildcat topped the Hockleyensis from 5126 to 5129 feet.

The test is located 330 feet south and west of the center of the northeast quarter of section 26-2s-8w.

●

SEVEN PRODUCERS

Lake Charles.—The majority of the wells completed in the Louisiana Gulf Coast during the past was finished by The Teaxs Company. There were 10 completions reported in the area during the past week, and seven resulted in oil producers with an initial production of 6735 barrels per day. The Texas Company completed six of the seven producers and not a single dry hole. Three failures were reported in the area.

●

IBERIA PARISH

Lake Charles.—Two interesting wildcat locations were announced for the Louisiana Gulf Coast during the past week, both were in Iberia Parish. Delcambre & Sheldon announced location for Delcambre 1, on the Vermillion Parish line in Section 63-12s-5e. Meade Oil Company made location for De Rouen 1, northeast of Jefferson Lake in Section 38-12s-5e.

To the north of Plaquemines, in Iberville Parish, an interesting lease play has been in progress for some time with several major oil companies participating. A Mississippi oil operator is planning to start a test in the area the latter part of the year. The test is to be drilled 6000 feet.

In the area of the Choctaw dome in Iberville Parish, it is reported that a major oil company is on a deal with a large lumber company for 640 acres. Consideration was over $9500 and a well to start in 60 days.

Lake Charles.—The Bosco field, Acadia and St. Landry Parishes, had a quiet week the past seven days with no completions reported. The operators have made location for Kahn 3, 2600 feet north and 300 feet west from the southeast corner of Section 33-8s-3e. Melancon 4, is located 3006 feet north and 300 feet west from the southeast corner of section 33-8s-3e and V. Prejean 3, is 572 feet south and 808 feet east from the northwest corner of the southeast quarter of section 34-8s-3e.

●

SOUTH HOUSTON

Houston.—Stanolind Oil & Gas Company's Fee Land 1, the discovery well for the South Houston field, Harris County, was cutting screen and pulling tubing at the close of the week to recomplete the wildcat.

Houston.—Turnbull & Irwin's Moore 1, J. D. Martinez No. 3 Survey, San Jacinto County, was plugged as a dry hole during the past week at 4873 feet, after testing salt water from 4850 to 4867 feet. The well drilled 228 feet into the Cockfield. The wildcat topped the Cockfield at 4645 feet.

Ralph Stern abandoned his location on R. B. Love Estate 1, which is located one mile north of Cold Springs and 425 feet south of the north line and 2000 feet east of the west line of 177-acre tract in D. D. McGee Survey.

●

RODESSA GAS FIELD

Shreveport.—Completion of United Gas Public Service Company's Young 1, SE SE 21-23n-16w, one mile north of production in the Rodessa gas field, Caddo Parish, was delayed last week by a fishing job but Thursday hole was clean and operators were arranging to resume at 5826 feet. Three fourths of a mile west of production in the same field, the same company's D. F. Barr 1, Section 29-23n-16w, was drilling at 4992 feet.

Shreveport.—Three fourths of a mile southwest of the nearest of four gas producers at the 4200-foot level in Glen Rose formation in the Sligo gas field, Bossier Parish, Triangle Drilling Company's State of Louisiana 1, NW NW 23-17n-12w, tested an estimated one to two million cubic feet of gas when formation tester was run at 4259 feet, and later was drilling ahead at 4262 feet.

Desoto Parish Test

ABANDONED HOLE HEADS OIL AND WILL BE CLEANED

WEEKLY STAFF REPORT

Shreveport.—Derrick was being rebuilt and machinery moved in for cleaning out hole and running casing in Flesh & Hootkins' Farmer 1, SE SE 14-12n-13w, a wildcat in DeSoto Parish, that suddenly blew out the plug driven into the abandoned hole last week and started flowing oil by heads.

Total depth of the hole was 3035 feet and it was abandoned as dry. Source of the oil which showed 36.4 gravity is undetermined but its gravity is similar to that from the Bull Bayou field, Red River-DeSoto Parishes, in the Tokio. However, the present test showed oil and gas in the Nacatosh at 1100 feet but a drill stem test was unsatisfactory. Returns were lost in the Annona chalk. The test was carefully cored during drilling. A block of approximately 4000 acres was assembled for the test but about half of this had been taken by major companies including Arkansas Natural Gas Corporation and Ohio Oil Company.

After hole is cleaned operators plan to run an electrical formation tester and then set casing.

•

EIGHT STARTS

Shreveport.—Eight new locations were announced last week in North Louisiana. Three of the new tests are wildcats. In the Pine Island field, Caddo Parish, the Leonard Company has derrick up for Muslow 1, NW NE 9-20n-15w. In the Converse field, Sabine Parish, Windsor Oil Company has spudded L. L. Latham 1, SW SE SE 16-9n-13w.

In Natchitoches Parish, Howard and Kittrell of Oklahoma City, have assembled two wildcat blocks. They have spudded a 3500-foot test in Section 48-10n-7w, and made location for a 3000-foot test in 30-10n-6w.

In the Union Parish part of Monroe gas field, Carbon Consolidated made two locations, Feazel 1, NW SE 8-20n-3e, and Feazel 2, NW SE 8-20n-3e.

In Webster Parish, Burnett and associates have assembled a block about six miles southwest of Minden and have derrick for Fulbright 1, NE NE 1-18n-10w.

One mile east of production in the Rodessa gas field, Caddo Parish, Haynes Oil Corporation, which owns approximately 2000 acres on that side of the field, made location for J. Tison, Sr. 1, 24-23n-16w.

•

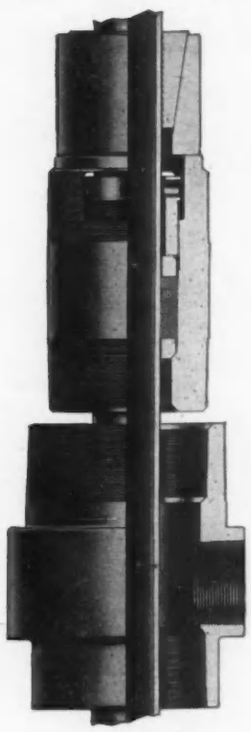
CRUDE PURCHASE

Shreveport.—Eugene F. Healy, representative of the Penn-Gro Oil Company of Chicago, announced in Shreveport last week that his company is purchasing 36,000 barrels of Louisiana crude for shipment by barge line from New Orleans to Chicago. He said other purchases in this state are contemplated where crude is available.

•

SIXTEEN PERMITS

Shreveport.—Sixteen drilling permits were issued last week by the minerals division, Louisiana Conservation Com-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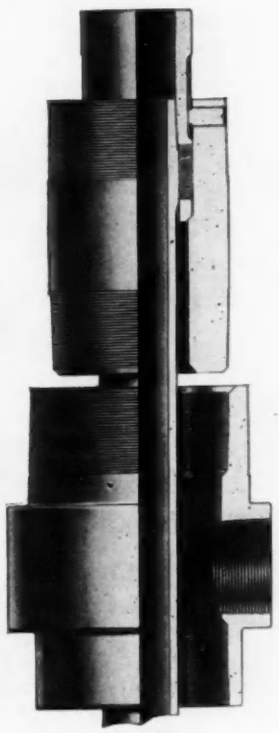
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mission. Five were for North Louisiana parishes divided as follows: DeSoto, one; Morehouse, one; Sabine, two; and Union, one. The 11 in south Louisiana were divided among the following parishes: Acadia, three; Calcasieu, two; Iberia, four; Plaquemines, one; and Vermillion, one.

•

NORTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MOREHOUSE PARISH (Monroe)—		
Carbons Consolidated, Archie 1, nw sw 22-20n-4e	¶10	2136
SABINE PARISH (Converse)—		
Hill Meyers et al, T. P. Henderson 1, ne se ne 29-9n-13w	*	2046

*Failures; †Junked; ¶Million cu. ft. gas.

DEEP TEST FAILURE
Second deepest Arkansas hole gets salt water

El Dorado, Ark.—Nothing but salt water appeared last week in H. L. Hunt, Incorporated's E. F. Gregory 15, SE SE 10-17-14, in the Rainbow City field, Union County, after the hole was plugged back and perforated at 3478 feet and blown with air. There had been 2000 feet of oil and salt water in the hole at that depth. Old total depth of the hole is 6911 feet in Permian salt. This is the second deepest hole ever drilled in Arkansas being exceeded only in depth by a 7255-foot hole drilled several years ago by Lion Oil Refining Company in Section 4-16-15 in the Smackover field.

Gulf Refining Company last week started drilling ahead in Werner Lumber Company 49, SW NW SW 5-16-16, Smackover field, Union County, following testing of salt water in lime at 6432 feet.

•

COMPLETION

El Dorado, Ark. — Arkansas had one completion, a wildcat abandonment, and one new location last week. Pendleton & Vaughan who own a large tract in fee in Sevier County, abandoned their third shallow test drilled in recent weeks as a dry hole at 1180 feet. The first was a junked hole at 1135 feet, the second encountered a fresh water flow at 1172 feet.

The new location was a wildcat in Columbia County, on a block near Waldo, on which geophysical work has been done recently. The new test, for which derrick is already up, is J. G. Cubage's Rhea 1, SW SE SE 12-17-22.

ABANDONED SEVENTH
Gulf must start eighth test on Mississippi lease

Jackson, Miss.—Under the terms of the leases it holds Gulf Refining Company must start its eighth test on Dentzler Lumber Company land in south Mississippi by August 4 this year. The seventh test on this company's acreage was abandoned recently at 7443 feet, corrected depth. This test, Dentzler Lumber Company 1, SE SE 36-3s-11w, Stone County, had the following casing record: 16-inch casing at 73 feet; 10¾-inch at 2164 feet; seven-inch at 5467 feet. Elevation was 172 feet.

All of the acreage that was leased in Pearl River County, south Mississippi, jointly by B. B. Jones and Gulf Refining Company, totaling over 90,000 acres and on which two tests were drilled, has been released. Most of the acreage was leased from the Goodyear Yellow Pine Lumber Company.

Magnolia Petroleum Company recently paid rentals on 1000 acres of leases it holds in Marion County, south Mississippi, it took when a 2606-foot test was drilled over a year ago in that county by Pelican Oil and Gasoline Company.

•

FLORIDA TEST

Groveland, Florida. — Oil Development Company of Florida's South Lake test is drilling at 1730 feet in gray and brown lime section, running heavy in anhydrite. It probably is of Wilcox age.

Recently a test was made of a show at 1305 feet, but only one joint of mud was recovered after 12 minutes through a ¼-inch choke. Cores taken at 1593 and 1601 feet showed many vertical tension fractures.

•

ARKANSAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
SEVIER COUNTY—		
Pendleton & Vaughan, J. E. Johnson 1, nw sw sw 35-9s-30w	*	1180

*Failures; †Junked; ¶Million cu. ft. gas.

Three Lea Failures

DEVELOPMENTS GENERALLY NOT FAVORABLE DURING THE WEEK

WEEKLY STAFF REPORT

Hobbs.—Three wildcat prospects on federal permits in Lea County tested sulphur water in reaching their projected goals in the dolomite lime horizons, and likely will be abandoned. Jeffers Oil Company scored two failures in the west portion of the county, both situated on permits farmed out by Continental Oil Company and The California Company. Rapkock-Jiminez 1, C SW SE 12-20s-33e, encountered hole full of water at 3540-55 feet, or 48 feet above sea level, while A. N. Etz 1, C NE SW 12-21s-32e, filled with water after drilling to 3581 feet, or 232 feet above sea level. Trace of oil logged at 3573 feet by the latter test caused a brief flurry of interest, due to its relative high structural position in logging top of brown lime at 3210 feet, or 603 feet above sea level.

W. L. Todd et al's Fred Cole-The Texas Company 1, C NE NE 35-19s-33e, failed to get a water shutoff in re-cementing seven-inch pipe at 3860 feet, or 257 feet sub-sea, and may be abandoned. Sulphur water was encountered at 3513-18 feet, the original goal, and arrangements were made to deepen to the lower lime, which is the equivalent of the oil horizon in the Eunice field. Amon G. Carter et al's Mattix 1, wildcat five miles northeast of the Cooper field, has failed to register a gain in oil production in drilling to 3850 feet. Approximately 2000 feet of oil in the hole from sandy-lime section was passed up at the 3500-foot level.

Sun Oil Company has moved in materials to drill H. S. Record 1, NWc N½ 22-22s-36e, a half-mile south of nearest production in the Eunice field. Drilling operations are to be launched this coming week on the two new locations previously announced as having been made by Texas Pacific Coal & Oil Company and Ohio Oil Company in the south portion of the field. Agreements have been reached among all lease owners in the area to abide by a well spacing program, with locations at the center of 40-acre units. One major company that has heretofore re-

fused to comply with the popular spacing plan in the Eunice, Cooper, North Jal and Hobbs fields, has promised to get in line.

Bottom hole water troubles have beset Gypsy Oil Company on two of its trio of tests drilled on the north line of Section 2 and offsetting oil production in the south end of the Cooper field. This company's State-Arnott 1-A, made a small volume of oil with water after acid treatment of lime at 3495 feet, or 241 feet sub-sea, while State-Arnott 2-A, C NW NE 2-25s-36e, is plugging back from 4000 feet to renew its efforts for an oil producer in the 3400-foot lime, having failed to make a producer in coring the section. However, it gave promise of a flowing well on drill stem test at 3528 feet, or 266 feet sub sea, prior to running casing. State-Arnott 3-A, northwest corner of the section, has been completed for 160 barrels daily flow after acid treatment of lime at 3350-3495 feet, or 229 feet below sea level. These disappointing wells may discourage further exploration work by the company, thus delaying the eventual linking together of the Cooper and North Jal fields.

Disappointments have been borne by Gypsy Oil Company in matching offsets in two other fields in the county. The company's State-Arnott 1-B, South Jal field, failed to respond to two treatments with acid at 3311 feet, and will be deepened, while State-Graham 4, C NW NE 24-18s-37e, situated on the northwest edge of the Hobbs field, tested 130 barrels of fluid per hour, 40 percent sulphur water, after treating with acid at 4230 feet.

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ROCKY MOUNTAIN
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
NEW MEXICO		
LEA COUNTY (Cooper Field)—		
Gypsy, State-Arnott 3-A, c nw ne 2-25s-36e	160	3495
LEA COUNTY (Eunice Field)—		
Amerada, H. L. Houston 1, c se ne 7-21s-36e	800	3833
LEA COUNTY (Hobbs Field)—		
Stanolind, E. H. Byers 26-nw, c se sw 3 19s-38e	10,611	4202
LEA COUNTY (North Jal Field)—		
Byrd-Frost, S. J. Wells-Conoco 1, sec nw 12,25s-36e	75	3338
LEA COUNTY (Monument Field)—		
Jeffers Oil Co., A. N. Etz-Conoco 1, c ne sw 12-21s-32e	*	3581
Rapkoch-Jiminex-Conoco 1, c sw se 11-20s-33e	*	3555
SANTA FE COUNTY—		
Fisher & Wolcott, Hill 1, sw 6-19n-7e	*	2750
EDDY COUNTY—		
Premier Oil Co., Dexter 1-E, cnw se 20-17s-29e	75	3296
MONTANA		
GLACIER COUNTY (Cut Bank Field)—		
Montana Power Gas Co., Bonnett 1, cse nw 4-32n-5w	320	2924
Santa Rita O&G Co., Fisk 1, sw se 14-35n-6w	150	2843
Texas Co., Bruins 9, cse 9-35n-2w	100	1642
TOOLE COUNTY (Kevin-Sunburst Field)—		
Coolidge & Coolidge, Shaw 1, se ne 35-36n-2w	10	1534
WYOMING		
CARBON COUNTY—		
Ohio, Harrison-Cooper 10, ne nw sw 35-20n-78w	200	3196
WESTON COUNTY—		
Osage Trust, 15-A, nw nw 14-46n-64w	135	1421
COLORADO		
MOFFAT COUNTY—		
Stanolind, Shaw 16 SD, se nw nw 27-4n-92w	1440	3354

*Failures; †Junked; ¶Million cu. ft. gas.

Big Medicine Dome

TWO STARTS FOLLOW BIG WELL; PIPE LINE BUILDING

ROCKY MOUNTAIN FIELDS — WEEKLY STAFF REPORT

Medicine Bow, Wyo.—Ohio Oil Company announced plans of laying a 10-mile four-inch pipe line outlet from the new Big Medicine Bow Dome field to railhead here on the Union Pacific line. Work on the pipe line from the field south of here will start in the next 20 days and it is expected that the line will be completed in the latter part of July.

Ohio Oil Company released two locations in the field, which are joint operations with The California Company. State 2, C NW NW 36-21n-79w, has rig up. The derrick was moved over from the discovery well, Kyle 1, which developed 6000 barrels daily of 63 gravity oil from the second Sundance sand at 5299-5393 feet and 81,000,000 cubic feet of wet gas daily from the first Sundance at 5151-5222 feet. State 2 is three quarters of a mile south and east of the discovery well. The other location is Union Pacific 1, Account 1, NE SW NW 25-21n-79w.

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NORTHERN WYOMING

Cody, Wyo.—Valentine M. Kirk is moving in material for Connaghan 1, NW SW 10-50n-100w, in Oregan Basin field, Park County, Northern Wyoming. The well will finish in the Wall Creek series.

In the Frannie field, north of here, in Park County, Continental Oil Company's Northern Pacific 3, SW SE SE 23-58n-98w, is drilling at 1561 feet.

ROCK RIVER FIELD
Sundance well averages 200 barrels on pump

Rock River, Wyo.—Ohio Oil Company's Harrison-Cooper 10, NE NW SW 35-20n-78w, first completion in the Sundance sand in the Rock River field near here in Carbon County, considerably exceeded production estimates. On completion of a 10-day pumping test this week the well averaged 200 barrels daily. It was deepened from the Dakota at 2734 feet and topped the Sundance at 3061 feet, entering saturation at 3061 feet and stopping 88 feet deeper at 3196 feet still in the sand. The well lacked gas pressure to flow. It was estimated it would make around 100 barrels daily on the pump.

Since its discovery 16 years ago, the Rock River field has yielded Ohio Oil Company more than 15,000,000 barrels of oil. It is expected that a much greater amount will be produced from the Sundance.

CUT BANK
Large district is opened by good producer

Cut Bank, Mont.—While no definite information can be learned as to the exact amount of production, Gardner-Smith Syndicate has what appears to be a good well in Tweedy 1, NE NE 36-33n-6w, which swabbed 70 barrels in two hours and shut down. The well is three miles southwest of the nearest Cut Bank production.

Hole bottoms at 2856 feet with the Cut Bank sand logged at 2842-45 feet with only three feet of pay. If the well holds up as first swabbing test indicates it will open up several thousand acres for development. It is located in what was considered doubtful territory and away from the Cut Bank shore line trend.

Eight new locations were released in the field this week as follows:

Anderson et al's Anderson 2, SE NW 26-35n-6w; rigging up. Goodstein-Smith's Olson 1, C NE SE 26-34n-6w; location. Lawler-Hoerr's Dowen 1, C SE SW 9-33n-5w; building rig. Grant Oil Company's Bakke 1, C NW NE 32-34n-5w; rig on location. Montana Power Gas Company's Heiland Unit 2, SW SE 27-36n-5w; rigging up. The Texas Company's Emaline Morgan 1, C NE NW 33-33n-5w; building rig. Santa Rita Oil & Gas Company's Savage 1, C NE SW 9-33n-5w; building rig; and Stahl 1, C NE SE 20-33n-5w; moving in.

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BYRON FIELD

Lovell, Wyo.—Ohio Oil Company released location this week for P. G. Sessions 1, NWc 33-56n-97w, in the Byron field, Big Horn County, Northern Wyoming, where four other tests are under way. The company's Sidon Canal 2, Lot 40 24-56n-97w, is drilling shale at 4381 feet.

Ohio Oil Company's Byron-Union 3, SE NW NE 22-56n-97w, is drilling at 1934 feet, and Byron-Union 4 SW NE 22-56n 97w, has derrick up. Taylor Oil

Company and S. H. Keoughan's Hoskins 1, Lot 57, SE SE 25-56n-97w, is shut down building a new bridge to location. The test is located on an island in the Shoshone River, where it cuts through the center of the field. Heavy rains in Big Horn County last week washed out the bridge to location. Total depth is 4750 feet.

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OSAGE FIELD

Osage, Wyo.—Osage Oil Trust completed Fee 15-A, NW NW 14-46n-64w, for 135 barrels daily on the pump, one of the largest completions in recent years in the Osage field, Weston County. Total depth is 1480 feet. One new test started, C. R. Herbison & Sons' Draper 3, NW NW 22-46n-63w, spudding at 50 feet. There are four other wells drilling in the field.

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CLAY BASIN, UTAH

Logan, Utah.—Mountain Fuel Supply Company's Murphy 2, C SL NE NE 21-3n-24e, test to the Sundance on the Clay Basin gas structure, Daggett County, Northeastern Utah, is running formation tester to 6037 feet. The well gauged a total of 32,000,000 cubic feet of gas daily from the Dakota series last winter before it shut down.

LANCE CREEK

Lusk, Wyo.—Ohio Oil Company started another well for the Sundance formation in the Lance Creek field, Niobrara County, Eastern Wyoming, this week. The company is rigging up rotary for Carrie Putnam 4, SW SW 33-36n-65w. Elizabeth Lamb 2, NE NW NE 5-35n-65w, an old well deepening from the Dakota to the Sundance, is drilling at 3000 feet. Continental Oil Company's Schuricht 2, C SE NE 6-35n-65w, is drilling at 565 feet and will go through the Sundance.

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BIG MUDDY

Glenrock, Wyo.—A well to the hitherto untested Tensleep sand in the big Muddy field, near here, is being started by Continental Oil Company. The test, Elkhorn 1, NW SE NE 9-33n-76w, is building derrick. The company's Whiteside 9, W½ NE SE 7-33n-76w, is drilling at 845 feet.

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WAUGH DOME

Thermopolis, Wyo.—California Exploration Company's Government 2, W½ SW NW 7-44n-96w, second well on the recently proved Waugh Dome black oil field, Hot Springs County, Wyoming, is drilling at 786 feet.

MONTEBELLO

Outpost well flowing but having water trouble

Los Angeles.—The eastern extension of the old Montebello field is making slow progress, in that the extension discovery hole is having trouble in cementing off the water.

Universal Consolidated Oil Company's No. "N" 2, at a plugged depth of 5930 feet, is now flowing 1030 barrels of 36 gravity oil, cut 15 percent, in addition to 1,200,000 cubic feet of gas. The pressure on the casing is 1450 pounds, and the flow is through 36/64-inch choke. This company has made location for two other tests to be drilled in the new area.

The Texas Company's Whittier 1 in the new area is drilling at 4460 feet in conglomerate and Wilshire Oil Company's Montebello 1 is drilling in shale at 2443 feet. Woodward Oil Company's Lapworth 1 is drilling at 2554 feet.

Standard Oil Company of California's Temple 19 is cleaning out with bottom at 7511 feet for a test and its Baldwin 73 with bottom at 6643 feet has placed a plug at 3500 feet and water was located at 3525-3528 feet. Liner is being run for a test.

It is probable that much work will have to be done to find out just how to handle the new extension as water seems to be bothering considerably. Leases in the new areas are in large blocks and no townlot drilling is expected.

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CALIFORNIA STARTS

Los Angeles.—Permits for new wells to be drilled in California continues to forge ahead of 1934. For the week ending June 15, total of 18 notices of new wells to be drilled were filed.

The permits for the past week called for five new wells at Long Beach, seven for the fields in Kern County, while six called for holes in unproven or semi-proven territory.

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Playa Del Rey

TEN ADDITIONAL WELLS DUE FOR COMPLETION IN MONTH

WEEKLY STAFF REPORT

Los Angeles.—During the past week, only one new producer for the Playa del Rey extension of the Venice field was reported, but of the 20 wells drilling in the field 14 are below 6000 feet and at least 10 of these holes should be completions within four weeks. Twenty-four companies are operating in the new area, and only one major company, Union Oil Company, is taking a hand in the new development.

Ed McAdams' Del Rey 2 was completed at 6324 feet for 750 barrels of 23 gravity clean oil, flowing through 28/64-inch choke. It has not been permitted to flow open for a potential test and for that reason no one yet has a figure on its possibilities.

Black Line Oil Company's No. 1 is now coring in oil sand at 6600 feet, top of which was found at 6555 feet.

Birch-Royer's No. 1 is coring oil sand with a total depth of 6450 feet. Colly Oil Company's Colly 2 stopped drilling at 6450 feet in oil sand and cemented 6⅝-inch at 6280 feet. Joyce Oil Company's No. 1 cemented 6⅝-inch at 6450 feet with bottom at 6730 feet, and should be a completion next week.

Lor-Mar Oil & Development Company's No. 1, an edge well, with bottom at 6875 feet, refused to flow, and will be tested on the pump. Raymond J. Rasmussen's Ray 1 with bottom at 7030 feet with seven-inch cemented at 6685 feet, refused to flow and is being placed on the compressor.

There is a general feeling that if all wells in the Playa del Rey extension were to be opened wide for a few days the gas head would go off, and no one could call the new field a menace.

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LONG BEACH—		
Jackson & Jackson, Jackson 3	250	4025
INGLEWOOD—		
Standard Oil Co., L. A. Inv. 75	1150	3350
DOMINGUEZ—		
Shell Oil Co., Reyes 73	1275	4530
HUNTINGTON BEACH—		
Associated Oil Co., Pearce 7	175	4440
VENICE—		
Ed McAdams, Del Rey 2	750	6324
Union Oil Co., Del Rey 9	275	5976
KETTLEMAN HILLS—		
Kettleman No. Dome Assn., 45-28J	6680	8348
BELRIDGE—		
Standard Oil Co., McPhail 1-A	650	8618
BUENA VISTA HILLS—		
Honolulu Oil Corp., No. 5	890	3280
MIDWAY—		
Geo. F. Getty, Fleming 1	180	3195
SEMITROPIC—		
Fullerton Oil Co., No. 72	¶10	2395
Standard Oil Co., Towle Est. 1	¶7½	2355

*Failures; †Junked; ¶Million cu. ft. gas.

Crystal Defined

TESTS SOUTH AND SOUTHEAST ARE ABANDONED AS FAILURES

WEEKLY STAFF REPORT

Mt. Pleasant, Mich.—Failures in Dundee lime in the Crystal district of Montcalm and Gratiot Counties this week appeared to limit any major south or southeast extension of the pool. Tests a mile south of production and from two to five miles southeast were abandoned as failures.

On the strength of development to-date, the drilling program has swung westward and to the northwest. Snowden & McSweeney's Wight 1, 10n-5w-10, was completed at 3194 feet for an initial of 970 barrels, increasing the fourth day to 1050 barrels. This test is located a half-mile west of the discovery well.

Burnstein Oil & Gas Company's Keel 1, 11n-5w-35, a mile north of the discovery, initial 12 barrels an hour from 3183 feet and increased to approximately 450 barrels daily at 3192 feet.

The area is carrying 40 active drilling operations where the bulk of present Michigan work is centered outside of wildcat development. Six commercial producers have been completed in the field, ranging from 450 barrels up to 5000 made by the discovery.

Another important development was completion of Thompson Brothers' Mills Estate 1, 21n-4e-31, Ogemaw County, a wildcat test eight miles southeast of Dundee lime production, a 15- to 30-barrel pumper in lime at 2600 feet.

MICHIGAN CONTROL

Operators unanimously agree on curtailment

Mt. Pleasant, Mich.—Michigan oil operators unanimously approved of a program of voluntary control of production and drilling in the absence of either federal or state control at a meeting of more than 100 operators here June 24.

Operators passed a resolution introduced by Fred Turner, independent, calling for continuance of a state regulatory committee with authority to regulate and control production with the market demand as a means of "stabilizing the market, conservation and increasing production."

Michigan with California are the only states without state legislation regulating the oil industry. Under the code, a seven-man regulatory commission headed by James C. Graves, independent, regulated production and set proration allowables to conform with federal production quotas. At the request of operators this committee will continue to function until at least such time as either federal or state control is effected.

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MIDLAND COUNTY

Mt. Pleasant, Mich. — Goll-Graves-Mechling will abandon Oviatt 1, Midland County, 16n-2e-24, a wildcat test at 3717 feet as a failure. The test established a Michigan record in drilling 412 feet into Dundee lime without encountering a water strata.

EASTERN FIELDS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
WEST VIRGINIA		
CALHOUN COUNTY—		
C. B. Lewis & Co., Kight 2	*	2029
KANAWHA COUNTY—		
Falling Rock C. C. Co. Weir 109	¶	1725
PLEASANTS COUNTY—		
J. M. Smith & Co., Moreland 1	1	....
RITCHIE COUNTY—		
H. N. Rinehart, Markey 7	3	1735
Richard Farm Oil Co., Corlies 7	2	1826
SOUTHEASTERN OHIO		
NOBLE COUNTY—		
Tom King & Co., Davis 3	2	1388
Lewis & Co., Milhone 3	*	1299
C. M. Nichorn, Huffman 10	*	1300
MONROE COUNTY—		
Penn-Ohio Oil Co., Reisbeck 7	*	2080
Gordon Green & Co., Baker 4	1	1455
Duroose O&G Co., Duros 4	*	1597
JACKSON COUNTY—		
Ohio FG Co., Hanley & Co. 1	¶	2682
WASHINGTON COUNTY—		
Witchernson & Co., Howiler 12	5	1663
Harry Minegar, Moore 6	¶	1967
W. L. Swingle, Bogard 1	10	1628
Local Co., Cane 1	*	414
Charles Warfield, King 1	*	1298
G. A. Wickens, Adkins 17	10	450
JACKSON COUNTY—		
Ohio F&G Co., Hanley & Co. 1	¶	2682

*Failures; †Junked; ¶Million cu. ft. gas.

Company, Well and Location	Init. Prod. Bbls.	Depth
CENTRAL OHIO		
ATHENS COUNTY—		
Ohio F&G Co., Hawk 2	¶	500
Caplinger 1	¶	1144
Keirns 1	¶	1623
Caplinger 2	¶	1114
Carpenter & Glaizer, Smith 1	¶	1623
BELMONT COUNTY—		
Barnesville Dev. Co., Thornburg 3	¶	1372
N. W. Dunn & Co., Merritt 2	¶	1075
ASHLAND COUNTY—		
Ohio F&G Co., Osborn 1	*	2752
SCIOTO COUNTY—		
Ida B. Mossbarger, Wood 1	¶	900
VINTON COUNTY—		
Kelch Bros., Geiger 1	2	....
MEDINA COUNTY—		
Ohio F&G Co., Lance 1	*	3126
J. A. Price, Bowman 2	3	420
SUMMITT COUNTY—		
Lyons & Co., Cummings 2	*	4055
STARK COUNTY—		
East Ohio Gas Co., Fasnacht 2	¶	4581
LICKING COUNTY—		
J. W. Livingston, Preston 2	4	585
KNOX COUNTY—		
Ohio F&G Co., Phillips 1	20	3166
J. B. Reed, McCoy 2	12	2585
Upham Gas Co., Lower 5	¶	2907
TUSCARAWAS COUNTY—		
Alfred C. Uhliers, Upham 1	¶	4818
HOCKING COUNTY—		
Preston Oil Co., S.C.C. Co. 120	50	....
MEDINA COUNTY—		
E. R. Edson Son's Co., Wideman 29	4	525
C. & W. Allis, J. Allis 4	3	554
O. K. Oil & Gas Co., Essig 68	*	415
PERRY COUNTY—		
Hopewell F&G Co., Kuffman 1	¶	2980
Ohio F&G Co., Smith 1	¶	3000
WASHINGTON COUNTY—		
H. W. Langford & Co., Gerkin 1	*	912
PENNSYLVANIA		
GREENE COUNTY—		
Carnegie Nat. Gas Co., Stephenson 2	*	3049

*Failures; †Junked; ¶Million cu. ft. gas.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MIDLAND COUNTY—		
Goll-Graves-Mechling's Oviatt 1, 16n-2e, sw se sw-24	*	3717
ISABELLA COUNTY—		
Atha Oil Co., Harrigar 1, 16n-4w, sw nw-31	*	1510
M. C. McEvoy, Demski 1, 15n-3w, se sw se-28	150	3612
W. J. Bernier, Robinson 1, 14n-6w, nw nw-1	¶½	1350
OGEMAW COUNTY—		
Thompson Brothers, Mills 1, 21n-4e, nw se sw-31	25	2600
MONTCALM COUNTY—		
Daily Crude Oil Co., Hansen 2, 12n-6w, se ne nw-10	100	3115
Goff & Raybuck, Williams 1, 12n-7w, ne sw ne-14	*	1300
Snowden & McSweeney, Wight 1, 10n-5w, ne ne ne-10	1000	3194
T. F. Caldwell, Ingersol 1, 10n-5w, ne nw ne-14	*	3211
Burnstein O&G Co., Keel 1, 11n-5w, sw se se-35	450	3192
GRATIOT COUNTY—		
T. F. Caldwell, Land Bank 1, 10n-4w, nw sw sw-18	*	3215
MECOSTA COUNTY—		
Hall Be Oyle Co., Taggart 2, 14n-8w, ne ne-10	¶9	1390
OCEANA COUNTY—		
Reed Oil Co., Lewis 1, 13n-15w, nw nw ne-16	*	2200

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT

Wildcat Tests

MONTANA

CARBON COUNTY—Bailey Round-Butte Oil Co.'s Test 1, w½ ne se 3-6s-23e, dr 900 ft.

FERGUS COUNTY—Emmons et al's Test 1, e½ ne se 6-20n-18e, dr 616 ft.

GALLATIN COUNTY—Montana G. & P. Co.'s Tyce 1, ne ne ne 28-1n-2e, dr 1897 ft.

LIBERTY COUNTY—J. H. Hamilton Syndicate's Northern Farms 1, cne sw 10-37n-5e, preparing to acidize at 2803-79 ft.

PETROLEUM COUNTY — Hardendorf & Keyes' Austad 1, sw nw nw 22-13n-28e, Rattlesnake Butte structure, sp 150 ft.

PHILLIPS COUNTY—Guy Norman's Pewitt 1, ne nw ne 20-24n-24e, dr 700 ft.

PONDERA COUNTY—Texas Co.'s 5-Unit-1, sw sw 3-30n-5w, Valier area, spd.

WYOMING

ALBANY COUNTY — Ohio's Two Rivers Land & Cattle Co. 1, sw ne 8-17n-74w, ready to spud.

CARBON COUNTY — General Pet. Co.'s Whitford 1, sw se ne 24-20n-84w, sd 4400 ft.

FREMONT COUNTY — Monongahela Oil Co. and Sidney H. Keoughan's Wisda 1, ne se 13-28n-93w, dr 3400 ft.

WESTON COUNTY — Conway Oil Co.'s Government 1, se se nw 7-41n-60w, dr 1732 ft.

CROOK COUNTY—Keystone Unit's Kinter 1, n½ ne se 13-52n-62w, Rocky Ford structure, dr 1170 ft.

NEW MEXICO

EDDY COUNTY—Geo. F. Getty Oil Co.'s Andrew Dooley 7, swc nw 24-20s-29e, elev 3309 ft, show gas 6019 ft, testing.

LEA COUNTY—Amerada's H. F. Andrews 1, c nw nw 12-20s-36e, Monument area, cem cas 174 ft. Argo Royalty Co.'s B. A. Burner-The Texas Co. 2, c se se 8-20s-32e, dr 450 ft. Anderson-Prichard Oil Corp.'s Fisher 1, c se ne 8-20s-35e, elev 3690 ft, top anhydrite 1945 ft, top salt 2000 ft, dr white lime 4310 ft. Amon G. Carter et al's G. H. Mattix-Conoco 1, c se nw 3-24s-37e, elev 3528 ft, top anhydrite 1090 ft, top salt 1225 ft, top brown lime 2547 ft, show o&g, dr 3850 ft. R. H. Henderson et al's P. J. Langley 1, c se se 8-25s-37e, elev 3162 ft, top salt 1205 ft, set 5 3/16-in cas 3197 ft. Humble's J. L. Coates 1-A, nw ne 10-24s-36e, elev 3385 ft, top anhydrite 1324 ft, top salt 1433 ft, sd 3394 ft. Jeffers Oil Co.'s (R. H. Henderson) C. M. Carlson 1, c nw se 27-25s-37e, elev 3025 ft, sd 300 ft; A. N. Etz-Conoco 1, c ne sw 12-21s-32e, elev 3813 ft, top anhydrite 1560 ft, base salt 3175 ft, top brown lime 3210 ft, trace oil and hole full sulphur w 3575-81 ft; Britt-Conoco 1, c se nw 7-20s-37e, Monument area, dr 225 ft; Kapkoch-Conoco 1, c sw se 11-20s-33e, elev 3603 ft, top anhydrite 1395 ft, dr 3510 ft. Harry Leonard et al (was E. B. Guess et al's) C. W. Justis 1, swc nw nw 20-25s-37e, elev 3067 ft, cem 10-in cas 1156 ft, td 1164 ft. Maljamar O&G Corp.'s L. R. Simon 1, c ne ne 29-17s-32e, Maljamar field, lcn; P. Miller 1, c nw se 23-17s-32e, elev 3992 ft, top anhydrite 790 ft, top salt 955 ft, pb fr sulphur w 4195 to 4190 ft, used 2000 gals acid, testing. Shell's State 1-E, c se se 35-19s-36e, Monument area, elev 3594 ft, td 3929 ft, used 2000 gals acid and flowed 182 bbls oil 8 hrs, used 4000 gals acid and estimated 40 bbls hourly. Skelly's Coates 1, c sw se 3-24s-36e, Cooper area, rig. Sun's W. B. Maveety-Weir 1, c ne se 35-19s-36e, Monument area, elev 3601 ft, top anhydrite 1008 ft, top salt 1160 ft, cem 9⅝-in cas 2353 ft; H. S. Record 1, nwc n½ 22-22s-36e, mim. Superior Oil Co.'s State 1, c ne ne 2-20s-36e, Monument area, elev 3596 ft, top anhydrite 980 ft, dr 3100 ft. Texas Co.'s Saunders 1, c se sw 18-19s-37e, Monument area, elev 3693 ft, top anhydrite 1288 ft, top brown lime 2585 ft, making gas, dr 3850 ft. W. L. Todd and Texas Co.'s Fred Cole 1, c ne ne 35-19s-33e, elev 3603 ft, top salt 1540 ft, top white lime 3250 ft, sulphur w at 3513 -18 ft, re-cem cas 3860 ft and again tested water.

CHAVES COUNTY—Warman Oil Trust's Weldon-Hoar 1, nw se 9-14s-25e, Blackdom structure, dr lime 1602 ft. Tannehill et al's Campbell 1, nw sw nw 1-11s-25e, Bottomless Lake District, dr 365 ft.

OTERO COUNTY—Flynn, Welch & Yates' Donohue 1, cnw ne 28-24s-15e, Sacramento Creek structure, sd 1585 ft.

ROOSEVELT COUNTY — Claudell Dev. Co.'s Wilmes 1, sw se 21-2s-30e, work resumed. Pulling 5-in csg in attempt to get water shut off, td 3655 ft.

SANTA FE COUNTY—Fisher & Wolcott's Hill 1, sw 6-19n-7e, Barton Dome, pb and abd 2750 ft.

COLORADO

ARCHULETA—Wm. E. Hughes Estate's Fee 1, sw 24-33n-2e, lcn.

BOULDER COUNTY—Leslie R. Steele et al's Maxwell 1, ne sw sw 13-1n-71w, dr 1090 ft.

JACKSON COUNTY—Continental's Hoye 3, nwc ne 34-9n-78w, South McCallum structure, dr 2554 ft.

MORGAN COUNTY—Swisher et al's No. 1, Lunt, sw sw sw 3-4n-60w, dr 600 ft.

CALIFORNIA

KERN COUNTY

ARVIN—General Pet. Corp.'s Mattson 1, 1-32-29, dr sand and shale 5502 ft. Hall-Baker Co.'s Core Hole 4-4, 16-31-30, pumping water and oil 1270 ft.

BELRIDGE—Continental Oil Co.'s Maylan 1, 7-28-20, dr hard shale 5232 ft.

BUENA VISTA LAKE—Shell Oil Co.'s B. V. A. 1, 9-32-25, dr sandy shale 7158 ft.

CALIENTE CREEK—Hutcheson & Osborn's O & H 1, 32-30-30, spud June 14. Geo. Sunday's No. 1, 5-30-30, spud June 10. Woodward Oil Co.'s Batz 1, 36-29-29, sd 682 ft; Jameson 1, 36-29-29, no report.

COMANCHE POINT—Tejon Ridge Oil Co.'s No. 1, 23-32-29, sd 1942 ft, preparing to resume.

DELANO—Cimarron Oil Corp.'s Quinn 1, 14-25-27, sd 2315 ft

DEVIL'S DEN—Amerada Pet. Corp.'s Beer 3, 17-26-19, dr sandy shale 3086 ft.

GRAPEVINE—Silver Gate Co.'s Tejon 1, 7-10-19, dr shale and sand 990 ft.

GREENFIELD—Big McKittrick Oil Co.'s Houghton 1, 7-31-28, sd 6767 ft.

KERN RIVER—D. D. Lucas' No. 1, 26-29-29, dr shale 510 ft.

KERNELL—Standard Oil Co.'s Rideout 1, 34-24-23, rigged; Widgeon 2, 12-25-23, dr sand and shale 3929 ft. Trico Oil & Gas Co.'s No. 5, 3-25-23, dr sandy shale 2327 ft.

LOST HILLS—Standard Oil Co.'s United 1, 2-26-20, rigging to dr deeper 4143 ft.

SO. BUTTONWILLOW—Seeple Oil Corp.'s No. 1, 5-30-24, resumed operations 3762 ft, stuck drill pipe.

SO. DOME—Continental Oil Co.'s Gatchell 28-7, 7-25-20, blew out pulling core 6903 ft bottom; flowed 36,000 bbls hot salt water, ran in plug, to install heavier equip.

TEMBLOR HILLS—E. A. Bender's Shaw 1, 2-29-20, fsh 785 ft. Robt. Foster's No. 1, 2-32-22, sd 2975 ft.

WHEELER RIDGE—Reserve Oil & Gas Co.'s Tejon Ranch 1, 2-10-19, td 3708 ft, pumped 50 bbls 16 gravity oil, cut 50 percent, to bail; Tejon Ranch 3, 12-10-19, dr shale 550 ft.

KINGS COUNTY

ALPAUGH—Trico Oil & Gas Co.'s Magee & Stone 3, 36-24-22, sd 4821 ft.

TULARE LAKE—Commonwealth Cons. Gas Co.'s No. 2, 21-22-20, sd 2475 ft.

MISCELLANEOUS

FRESNO COUNTY—Russ Oil Syn's No. 1, 28-12-11, sd 5115 ft, to drop from report. Taft Well Dr. Co.'s Kreyenhagen 1, 33-22-16, dr gray sand 2965 ft.

HUMBOLDT COUNTY—The Texas Co.'s Eureka 1, 1-3-2, td 6133 ft, top schist 5800 ft, plug 5800 ft, set 6⅝-in 5708 ft.

SACRAMENTO COUNTY—Great American Pet. Co.'s Howard 1, 25-2-8, sd 2962 ft.

SAN JOAQUIN COUNTY—Amerada Pet. Corp.'s F. D. L. 1, 15-2-5, dr shale 5780 ft.

SOLANO COUNTY—Trico Oil & Gas Co.'s Noonan 1, 10-5-1, dr shale 810 ft.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, coring sandy shale 4399 ft, gas on ditch.

TULARE COUNTY—Kabella Oil Co.'s No. 12-23-27, fsh 817 ft. Kings River Oil Pool's No. 1, 29-16-23, fsh 3160 ft.

MONTEREY COUNTY—Shell Oil Co.'s Branch 1, 34-24-10, dr gray and black shale 3301 ft.

SANTA BARBARA COUNTY

GOLETA—Shell Oil Co.'s Hollister 1, 10-4-29, spud June 18.

LOMPOC—M. J. Freeman's La Brea 1, 11-7-33, sd 1028 ft. Lompoc Pet. Co.'s Beauterbough No. 2, 18-7-34, sd 3515 ft.

VENTURA COUNTY

BARDSDALE—El Rancho Oil Co.'s Elkins 1, 9-3-19, td 1083 ft, rigging heavier equip. Union Oil Co.'s Dryden 1, 12-3-20, dr shale 3336 ft, set 11¾-in 3223 ft.

CONEJO — International Oil Developers' Powell 1, 33-2-20, td 3060 ft, running 8¼-in on packer.

HOPPER CANYON—Oil Ridge Oil Co.'s Moran 3, 1-4-19, td 1665 ft, ur.

LAS POSAS—Las Posas Pet. Co.'s Mahan 1, 22-3-20, td 8120 ft, 275 ft 5 in blank cemented 7255 ft.

OXNARD—General Pet. Corp.'s McGrath 1 (?)-1-22, bldg rig.

PIRU—Bachman Pet. Co.'s No. 14, 36-4-18, to test on pump 5050 ft.

SANTA PAULA—High Mesa Oil Co.'s Butcher 1, 16-4-22, sd 650 ft. Edw. M. Lesperance's Boosey 1, 31-4-20, td 1975 ft, r.

SESPE—Bankline Oil Co.'s No. 1, 36-5-20, bldg roads. E. R. McClellan's 4-4-19, rust. Sullivan & Roberts' No. 2, 28-5-19, grade. Supreme Oil Co.'s No. 1, 1-4-20, dr hard sand 305 ft.

SHIELLS CANYON—Henry R. Dabney's McGuire 1, 2-3-19, sd 500 ft. The Texas Co.'s Shiells 128, 4-3-19, dr shale 7275 ft.

SIMI—Dawson Oil Co.'s No. 1, 8-2-17, sd 1910 ft. Paloma Oil Co.'s Paloma-Marr 1, 12-2-18, dr hard sand 1805 ft.

SO. MOUNTAIN—Calco Pet. Corp.'s No. 2, 17-3-20, wocs 13¾-in 1650 ft, bottom.

SOUTHERN CALIFORNIA

ARTESIA—Vanco Dev. Co.'s Millard 1, 25-3-12, dr hard sand 5134 ft.

BANDINI—West American Oil Co.'s Bandini 1, 17-2-12, dr sand and shale 4130 ft. Western Gulf Oil Co.'s Vail 1, 16-2-12, dr shale 5513 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

* —*dry hole abandoned well.*
‡ —*salt water (completions).*
† —*junked and abandoned*
¶ —*million feet of gas.*
abd —*abandoned.*
bbls —*barrels.*
br —*building rig.*
b.s.—*basic sediment.*
csg —*casing.*
co —*cleaning out.*
dd —*drilling deeper.*
dk —*derrick.*
dr —*drilling.*
fsg —*fishing.*
ft —*feet.*
hfw —*hole full of water.*
in —*inches.*
lcn —*location.*
m —*milling.*
mim —*moving in materials.*
mit —*moving in tools.*
mot —*milling on tools.*
n, s, e, w, —*north, south, east, west*
oih —*oil in hole.*
owdd —*old well drilling deeper.*
owpb —*old well plugging back.*
pb —*plugged back or plugging back.*
r —*reaming.*
rog —*rig on the ground.*
rur —*rigging up rotary tools.*
rust —*rigging up standard tools.*
sd —*shut down.*
sdtr —*sidetracking.*
sg —*show gas.*
si —*shut in.*
so —*show oil.*
so & g —*show oil and gas.*
spd —*spudding.*
sr —*straight reaming.*
sw —*salt water.*
td —*total depth.*
ur —*underreaming.*
wih —*water in the hole.*
wo —*workover.*
wocs —*waiting on cement to set.*
wosr —*waiting on standard rig.*

DEL REY HILLS—Winoco Prod. & Ref. Co.'s Mesmer 1, 26-2-15, rig.

EL SEGUNDO—Republic Pet. Co.'s No. 1, 18-3-14, dr shale 5354 ft.

HUNTINGTON BEACH, on tidelands—Black Eagle Oil Co.'s No. 1-B, permit 194, td 4702 ft, pumping mud, water and little oil, will drop from report.

NEWPORT—Si Rubens' No. 1, 14-6-10, sd 2574 ft. Wilshire Oil Co.'s Newport 1, 29-6-10, dr shale 1190 ft.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, fsh 3770 ft.

SAUGUS—Barstow Oil Co.'s Walker 1, 35-5-16, sd 4043 ft. International Oil Developers, Powell 1, 34-5-16, td 4339 ft, plug 1703 ft, testing 700-1678 ft; Powell 2, 34-5-16, lcn.

SAN BERNARDINO COUNTY — Great American Pet. Co.'s Gapco D-1, 18-2-8, sd 923 ft.

KANSAS

BARBER COUNTY — Wentz' Skinner 1, cnw ne 29-31s-14w, dr 3250 ft. Southern Drlg. Co. et al's Davis 1, sw se ne 13-34s-15w, td 4664 ft, rust.

BARTON COUNTY—Lario O&G Co. et al's Nuss 1, nw sw sw 11-16s-14w, td 3415 ft, hfw 3393-3396 ft, pb 3391 ft, 1000 ft gas 1 hr, 2500 ft oih. Pryor & Lockhart's Herrington 1, ne ne nw 6-16s-12w, co 2785 ft. Lario & McCoy's Dolechek 1, ne nw ne 13-16s-12w, dr 2670 ft. Price et al's Ehrlich 1, nw nw se 10-16s-13w, dr 1737 ft. Suppes & Witts' Hayes 1, nw nw nw 7-16s-16w, dr 1650 ft.

BUTLER COUNTY — Hay & Cameron's Johnson 1, nw nw se 16-26s-6e, fsg 3000 ft. Polhamus et al's Semisch 2, cs½ ne ne 5-28s-7e, dr 1010 ft.

COWLEY COUNTY — Lloyd, Frost & Study's Weathered 1, sw se se, td 3355 ft, pumped 92 bbls oil & 47 bbls water 17 hrs. Baden, Johnson, Roth & Farrout's David 1, ne ne sw 35-30s-4e, dr 960 ft. Wakefield's Tharp 1, se se ne 10-32s-3e, ru.

ELLIS COUNTY—Palmer's Ruder 1, se ne nw 17-15s-18w, dr 2085 ft. Stanolind's Penny-Wann 1, nw sw se 12-15s-20w, fsg 3059 ft. Joe Aylward's Dreiling 1, se se se 3-14s-16w, dr 1090 ft.

GRAHAM COUNTY—Helmerich & Payne et al's Stites 1, csw sw 8-10s-22w, ru.

HARPER COUNTY—Kessler & Their et al's Wolfje 1, sw sw ne 17-33s-6w, ru.

HARVEY COUNTY—Twin Drilling Co. et al's Ruth 1, sw sw sw 16-22s-2w, dr 3610 ft. Cameron, Derby & Trees' Brainard 1, sw se nw 17-24s-2e, running 6-in csg 3064 ft. Winkler-Koch et al's Mueller 1, se sw nw 15-23s-2w, ur 8-in csg 2455 ft. Lauck et al's Baller 1, sw sw sw 29-24s-1e, hfw 3591-3594 ft, dr 3599 ft. H. H. & S. Oil Co.'s Fizzle 1, ne ne se 31-23s-2w, ru.

KINGMAN COUNTY—Kingman's Wetherall 1, ne ne sw 20-28s-10w, coring 3525 ft.

McPHERSON COUNTY—Shell's Wenger 1, ne ne ne 20-20s-1w, sd for pipe line. Hollow, Toews, Hinkle's Aschman 1, nw nw se 8-21s-4w, rig.

NESS COUNTY—Phillips Pet. Co.'s Young 1, cnw sw 13-18s-21w, hfw 4179-4183 ft, td 4235 ft, D&A.

RENO COUNTY—Mylius et al's Sprowl 1, ne nw ne 1-24s-5w, td 3963 ft, D&A. Gypsy's Tonn 1, sw nw se 16-25s-4w, dr 3965 ft. Haynes Brothers et al's Mueller 1, se se nw 30-24s-4w, to run 7-in csg 3365 ft, and rust.

RICE COUNTY—Vickers Pet. Co. et al's Gouldner 1, se ne nw 16-18s-9w, td 3229 ft, to dd. Day's Mason 1, nw ne ne 28-21s-7w, sd 2460 ft. Anderson & Kerr et al's Lackey 1, ne ne nw 13-21s-6w, dr 2629 ft. Detrick et al's Monroe 1, cne ne 9-20s-7w, cellar. Detrick et al's Conner 1, cne ne 28-19s-7w, cellar. Three Rivers Oil Co.'s Buehler 1, nw nw nw 17-18s-8w, rig.

ROOKS COUNTY—Trees Oil & Findeiss' Johnson 1, sw sw se 26-10s-19w, dr 1693 ft. El Dorado Ref. Co. et al's Marshall 1, cse se 8-7s-17w, cellar.

RUSH COUNTY—Boyle & Grossman et al's Yost 1, csw sw 23-17s-18w, dr 3365 ft. El Dorado Ref. Co.'s Stang 1, se se nw 36-17s-17w, sg 3460 ft, ur 8-in csg. Lario O&G Co., Madison & Hewitt's Gillig 1, ne se nw 24-17s-17w, hfw 455 ft, dr 465 ft. Ramsey Pet. Co. et al's Darkes 1, sw sw nw 5-17s-20w, dr 1600 ft. Boyle & Grossman's Wilson 1, ne ne ne 33-17s-19w, cellar. Twin Drilling Co. et al's Appe 1, sw sw ne 29-17s-17w, dr 1100 ft.

RUSSELL COUNTY—Wolf Creek et al's Penn Mutual 1, sw sw sw 22-15s-15w, td 3509 ft, D&A. Armer's Hall 1, ne se sw 36-14s-15w, td 3176 ft, 2900 ft o.h, will treat. J. Brouck & R. D. Bailey's Kluesner 1, nw nw se 34-15s-12e, dr 1370 ft. Winkler-Koch et al's Herman 1, se se nw 27-12s-15w, dr 2507 ft. Nassau's Karst 1, nw sw ne 27-15s-14w, ru. Tom Palmer's Machin 1, sw sw se 9-13s-14w, cellar. Roth & Farrout's Shaffer 1, nw nw ne 31-13s-12w, cellar. Coraleana's Flegler 1, se se se 11-15s-14w, mim. Buffalo Oil Co.'s Kunz 1, ne ne sw 19-14s-15w, mim. Hartman & Blair's Rexroot 1, ne nw nw 31-14s-14w, dr 2165 ft. Pryor & Lockhart's Spicer 1, ne ne se 21-11s-15w, dr 1700 ft.

SCOTT COUNTY—Atlantic's Mark "A" 1, cse se 28-20s-23w, dr 4960 ft.

SEDGWICK COUNTY—Allison & Fitzwilliams et al's Struthers 1, nw sw sw 34-28s-2w, running 8-in csg 3035 ft in new hole.

STAFFORD COUNTY—Davis et al's Riley 1, se se se 19-22s-11w, td 3606 ft, 2025 ft oih, no test. Empire's Grove 1, ne ne nw 5-22s-11w, dr 1984 ft. Helmerich, Payne & Newbold's Geisler 1, nw nw se 28-22s-12w, td 3625 ft, rust.

SUMNER COUNTY — Allison & Fitzwilliams et al's Hitchcock 1-B, se se nw 16-30s-1w, dr 2000 ft. Winkler & Koch et al's Belsley 1, sw sw nw 2-32s-2w, mim.

TREGO COUNTY—Hansa & Lauck's Lang 1, se se nw 1-14s-21w, fsg 3314 ft. Vickers Pet. Co. et al's Secor 1, nw nw nw 25-15s-24w, lcn.

WOODSON COUNTY — Connell & Marshall's Klick 1, sw nw sw 20-25s-14e, spd.

OKLAHOMA

ATOKA COUNTY — Pierce et al's Aetna Life 1, nw sw ne 10-1n-13e, rust. Vierson et al's Williams 1, sw sw nw 32-2s-10e, lcn. Kistler's Brown 1, sw sw sw 19-1s-12e, lcn.

CADDO COUNTY—Denver P. & R. Co.'s Sah-Cam 1, cse se 33-10n-10w, dr 7000 ft. Turner et al's Sapin 1, ne ne sw 1-5n-11w, rur.

CANADIAN COUNTY—Carl Larkin's Provene 1, nw nw ne 33-13n-5w, dr 7536 ft.

CARTER COUNTY—Carter's Humble-Williams 1, sw ne sw 27-2s-3w, dr 6350 ft. Waco Turner's Munson 1, ne nw ne 35-5s-2w, co 4156 ft.

CLEVELAND COUNTY—Asa Lee Mayes, Inc.'s Faut 1, sw sw ne 27-10n-2w, cellar and pits.

COAL COUNTY—Carter et al's Thompson 1, csl ne nw 34-2n-9e, dr 2675 ft. Amerada & Stanolind et al's Travelers Life 1, sw nw se 28-1s-9e, wocs 260 ft.

COMANCHE COUNTY — F. F. Stevens' Green 1, se se sw 2-1n-13w, dr 1715 ft.

GRANT COUNTY — Helmerich-Payne's Crouse 1, cne sw 29-25n-8w, dr 6332 ft.

GREER COUNTY—Fred Morgan's Carder 1, csw se 19-4n-22w, td 3220 ft. Rockwell et al's Stephens 1, csl se 32-6n-24w, mach. Payne et al's Tressell 1, nw nw nw 1-7n-22w (owdd), co and ur 8-in csg 1785 ft. Gled Oil Co.'s Simpson 1, ne nw ne 22-5n-22w, material.

HARMON COUNTY—Mathis' Keith 1, se nw sw 12-5n-26w, mach. Massard & Caudle's Crosnoe 1, se se sw 14-3n-25w, rig.

HUGHES COUNTY—Texas Co.'s Keaton 1, nw nw sw 4-8n-10e, td 4086 ft, pb 4030 ft, rust. Caprock Oil Co.'s Parks 1, sw sw se 34-7n-8e, rig.

JACKSON COUNTY—Palo Duro Oil Co.'s Ealum 1, se se sw 15-2n-21w, dr 1403 ft. Buell et al's Kizzar 1, se se ne 2-2n-22w, dr 2270 ft. Gypsy's Boucher 1, nw sw ne 32-1n-19w, td 2228 ft, ur 6-in csg. Robberson & Suppes' Walker 1, sw sw sw 19-4n-20w, dr 1425 ft. Triangle P&R Co.'s Fox 1, cnl se sw nw 11-3n-20w, sd 360 ft. Dengail O&G Co.'s Robinson 1, se se ne 32-1s-22w, br.

JEFFERSON COUNTY—Gypsy's James 1, sw se se 30-6n-6e, sd 2106 ft. Ben Levy et al's Ryan 1, nw nw nw 16-6s-6w, dr 1985 ft.

KAY COUNTY — Lindsay's Waggoner 1, nw nw ne 3-27n-1e, dr 2080 ft.

LEFLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, spd.

LINCOLN COUNTY — Stanolind's Cavanaugh 1, se se ne 31-5n-5e, td 3570 ft, pb 3532 ft, shot 10 qts 3520-3530 ft, swab 12 bbls oil and 12 bbls water. Texas Co.'s Niccum 1, se sw nw 28-14n-5e, dr 4405 ft. Amerada & Stanolind's Connally 1, se ne se 23-14n-2e, cellar.

LOGAN COUNTY—Sinclair Prairie & Slick-Urschel's Koatsch 1, sw sw sw 23-15n-3w, td 6342 ft, to pb. Stanolind & Amerada et al's Community Nunn 1, se se nw 25-15n-1e, dr 5435 ft.

MAJOR COUNTY—I. T. I. O. & Continental's Fairview 1, csw se 32-23n-14w, dr 4200 ft.

MARSHALL COUNTY—Schermerhorn Oil Co.'s Rich 1, sw se se 35-4s-4e, dr 598 ft.

MURRAY COUNTY—Equitable O&G Co.'s Ferguson 1, ne ne sw 26-1s-3e, dr 1230 ft. Hernsby & Jones' Sadler 1, ne ne nw 20-1n-2e, lcn.

OKFUSKEE COUNTY—Sunray's Culla 1, ne sw ne 13-12n-8e, cellar and pits.

OKLAHOMA COUNTY—Sinclair Prairie's Corbett 1, ne nw ne 17-13n-3w, set 9-in csg 6424 ft, dr 6470 ft. Slick-Urschel et al's Owen Community 1, se se se 19-13n-3w, td 6789 ft, bailed down 1300 ft. Gypsy's Salisburg 1, nw ne ne 13-14n-4w, dr 3275 ft.

PAWNEE COUNTY—Stanolind et al's Shumatana 1, ne sw se 32-22n-3e, m.r.

PONTOTOC COUNTY — Phillips Boyle's McCracken 1, ne nw nw 3-15n-4e, td 2170 ft, bailing. Southern Oil Co.'s Walker 1, nw nw sw 11-4n-6e, td 1530 ft, hfw, pb 1178 ft, set 8-in csg 1160 ft.

SEMINOLE COUNTY—Tom Phillips et al's Abbott 1, ne ne ne 33-8n-7e, coring 4338 ft. Carter & Shell's Brown C-41, cw½ se sw 23-8n-5e, td 116 ft, wocs.

STEPHENS COUNTY—Wm. Angle et al's Cooper 1, ne nw nw 23-2n-7w, dr 3737 ft. Geo. Pace et al's Daily 1, ne ne ne 26-1n-8w, dr 2990 ft.

TILLMAN COUNTY — Rock Island Ref. Co.'s Lynch 1, cse sw 35-1s-16w, dr 995 ft.

WASHITA COUNTY—McWhirter et al's Fee 1, sw sw sw 34-8n-19w, dr 595 ft.

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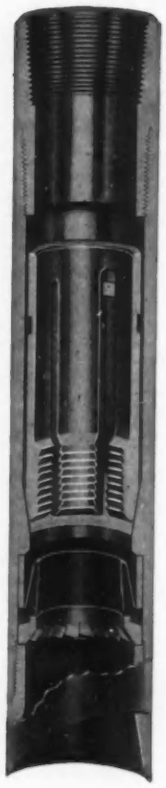

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EAST TEXAS

ANDERSON COUNTY—J. W. Luttes et al's C. M. McKee 1 (100-ac) W. F. Pool sur, 3 mi se of Frankston, elev 391 ft, Pecan chalk 3830-4390 ft, sdo in shale 4516 ft. Tide Water Oil Co.-Texas Seaboard Oil Co.'s N. N. Wills 21-A, Cayuga field Trinity sand test, elev 308 ft, sd 8600 ft; Shaw & Cern 1 (1216-ac), Daniel Parker sur, Long Lake area, elev 300 ft, top Pecan chalk 3506 ft, dr shale 3895 ft; C. T. Valentine 1 (301-ac) John Little sur, 9 mi n of Palestine, elev 454 ft, Pecan chalk 3621-3920 ft, Austin chalk 4725-4981 ft, top Woodbine series 5160 ft, pb fr sw at 5282 ft to 5202 ft, lost drill pipe 3200 ft, now sdtr.

BOWIE COUNTY—Tex-Ark Oil Co.'s J. B. Hamilton 1 (40-ac), Jessie Milam sur, elev 272 ft, sd 1121 ft.

CAMP COUNTY—E. J. Moran, G. E. & Ray Hubbard's W. M. Mitcham 1 (100-ac), L. Rose sur, 1½ mi n of Newsome, lcn.

CASS COUNTY—Stanley A. Thompson et al's G. H. Allen 1 (150-ac), Wm. King sur, 3 mi s of Hughes Springs, lcn.

CHEROKEE COUNTY—H. A. Baker & Florence Oil Co.'s Tol Smith 1 (40-ac), Jose Pineda sur, 4 mi nw of Jacksonville, elev 547 ft, top Pecan chalk 3520 ft, dr chalk 3815 ft. Jacksonville O&G Corp.'s H. D. Henderson 1 (40-ac), J. Pineda sur, elev 409 ft, sd 693 ft. Clark-Cowden Drlg. Corp.-R. J. St. Germain & L. J. O'Connor's J. G. Long 1 (54.65-ac), Don T. Quevado League, blk 13, 1 mi s of Mount Selman, rig. Roberts Bros. et al's H. E. Pryor 1 (3-ac), Jessie T. Jones sur, Rusk pool, lcn. Cal T. Scott, Turpin and Stidham & Thrasher's Whiteman-Decker 1-A (30-ac), J. H. Armstrong sur, Rusk pool, elev 546 ft, Pecan chalk 4184-4577 ft, broken to 4630 ft, top Austin chalk 5063-5306 ft, dry and abd in ws 5383 ft. Shell Pet. Corp.'s New Birmingham 1, Levi Jordan sur, Rusk pool, rig. T. J. Wood & Young's New Birmingham 4 (160-ac), Levi Jordan sur, Rusk pool, elev 476 ft, Pecan chalk 4028-4436 ft, Austin chalk 4940-5173 ft, top Woodbine sand 5173 to 5178 ft, swabs oil and salt water.

FRANKLIN COUNTY — J. E. Farrell & Co.'s G. K. Ayres 1 (50-ac), Chas. H. Simms sur, 6 mi ne of Winnsboro, rig.

FREESTONE COUNTY—J. E. Milburn & J. B. Patty's S. E. McAshan 1 (40-ac), G. Diaz sur, 3½ mi se Donie, sp and sd.

GREGG COUNTY — L. P. Kean et al's Smith 1, W. W. Avery sur, 4 mi s of Gladewater, rig.

HENDERSON COUNTY—Edson Pet. Co.'s C. L. Loper 1 (3-ac), Isaac Clendennan sur, Cayuga area, lcn. Kirby Pet. Co.'s C. L. Loper 1 (20-ac), I. Clendennen sur, Cayuga area, elev 328 ft, sc&g on dst at 4088 ft, sd for cas. C. D. Neff et al's H. G. Small 1 (100-ac), Isaac Greeson sur, sw of Cross Roads, elev 284 ft, cem 10-in cas 534 ft, dr 2010 ft. Illinois Oil Co.'s C. R. Litchfield 1 (4½-ac), I. Clendennen sur, Cayuga area, lcn. O. M. Rector et al's C. L. Loper 1 (3½-ac), I. Clendennan sur, Cayuga area, lcn. Taubert & McKee's M. T. Dodd 2 (160-ac), Geo. Aldrich sur, 4 mi e of Malakoff, lcn. Fred Upchurch et al's C. L. Loper 1 (3½-ac), I. Clendennan sur, Cayuga area, dr 3410 ft. H. M. Wilson et al's fee 1 (943-ac), Thomas Caro sur, 5 mi n Malakoff, dk.

HOPKINS COUNTY—D. A. Hale et al's L. N. Hall 1 (70-ac), A. Caro sur A-143, elev 506 ft, Pecan chalk 1825-2040 ft, top Austin chalk 2728 ft, sd 2950 ft.

HUNT COUNTY—D. T. Cauble et al's Y. B. Reed 2 (224-ac), F. Thweatt sur, 3 mi se Greenville, top Pecan chalk 550 ft, dry and abd 795 ft. J. F. Morrissey Co. Inc.'s P. B. Fry 1 (146-ac), Calloway Davis sur, 7 mi se of Ladonia, dr 1850 ft. H. G. Samson, Shawver et al's J. R. Phillips 1, W. L. James sur, elev 522 ft, Pecan chalk 556-631 ft, top Gober chalk 1202 ft, top Woodbine 2596 ft, top Red Beds 2750 ft, sd 2913 ft.

KAUFMAN COUNTY—G. H. Germany et al's D. Clark-W. S. Kirby 1, S. Edens sur, sd 1780 ft. L. P. Kean et al's J. B. Hunter 1, R. Sowell sur, 4 mi s of Terrell, elev 453 ft, top Austin chalk 1785 ft, sd 3400 ft. Murray & Emerson's G. W. Martin 1 (100-ac), W. F. C. Butler sur, dr 1280 ft.

LEON COUNTY—Killough & Tucker's J. W. Lee 1 (10-ac), Jacob Burleson sur, Buffalo area, elev 303 ft, Pecan chalk 3870-4028 ft, top Austin chalk (broken) 4908 ft, top hard chalk 4925 ft to 5230 ft, trace gas, coring 5585 ft.

LIMESTONE COUNTY—Dan H. Daugherty et al's Sallie Welch 1 (94-ac), Pedro Varella sur, Austin chalk 2350-2650 ft, top Woodbine 2890 ft, fsh 3008 ft. J. W. Kemp Co., Inc.'s Vol DeLong 1 (40-ac), Pedro Varella sur, 2½ mi n of Thelma, top Woodbine series 2750 ft, sandy-shale 2763-2876 ft, trying to exhaust sw with small volume gas. J. Edward Mills et al's J. B. Hunt 1 (34¼-ac), Israel Woods sur, 3 mi ne Kosse, Pecan chalk 2010-2137 ft, Austin chalk 2780-3158 ft, top Woodbine sand 3578 ft, sd 3654 ft. Yandell Rogers, W. A. "Bill" Reiter & W. H. Foster's J. M. Tidwell 1 (100-ac), 2½ mi sw of Mexia field, sp.

MORRIS COUNTY—Steve J. Rotondi et al's W. & C. Smith 1 (50-ac), M. C. Vela sur, 2½ mi sw Naples, sp and sd. C. M. "Dad" Joiner et al's fee 1, Wm. Coffey sur, lcn. B. L. Watson et al (was HNH Drilling Co.'s) E. Hall 1 (177-ac), Levi Jordan sur, 5 mi ne of Daingerfield, testing brown and gray sand 4151-59 ft.

NAVARRO COUNTY—L. N. McCulloch et al's Berry Bros. 1 (35-ac), W. W. Moss sur, Austin chalk 751-1060 ft, sd 1182 ft. E. M. Thomason & Co., Inc.'s Celia Moran 1 (100-ac), Wm. Haggard sur, sd 1221 ft. Wiggins & Albritton's D. A. Donoho 1 (63½-ac), John Caudle & Highnote sur, 2 mi sw of Corsicana, elev 467 ft, sd 1439 ft.

RAINS COUNTY—Harry B. Baker-Allen & McClung's Ida Bullard 1 (75-ac), Nancy Brantley sur, 2 mi sw Emory, dk; Mrs. Olma Giles 1 (77-ac), Thomas Cunningham sur, 6½ mi sw of Emory, dk.

RED RIVER COUNTY—A. M. Gibbons et al's B. A. Rust 1 (1915-ac), C. C. Welborn sur, s edge Avery, dk.

ROBERTSON COUNTY — H. L. Patton Co.'s W. H. & H. A. Ely 1 (616-ac), Antonio Manchaco sur, 5 mi se Hearne, elev 392 ft, top Carrizo 661 ft, cored cap rock 3146 ft.

RUSK COUNTY—Ben E. Lamb et al's Haywood Leath 1 (185-ac), L. J. Dooley sur, 2½ mi ne Pirtle, elev 370 ft, Pecan chalk 2418-2793 ft, Austin chalk 3352-3512 ft, td 4750 ft, pb and sd 4710 ft. Stewart & Egan's Hall Wood 1 (847-ac), blk 12, Jose I. Sanchez sur, elev 310 ft, Pecan chalk 3030-3740 ft, top Austin chalk 4215 ft, fsh drill pipe 4404 ft.

SMITH COUNTY—R. W. Fair et al's Fred Terrell 1 (72-ac), Eli Delk sur, 2½ mi ne Sand Flats, Pecan chalk 3250-3660 ft, Gober chalk 3860-3950 ft, base Austin chalk 4700 ft, dr 4815 ft. Sun Oil Co.-H. L. Hunt Prod. Co.'s E. W. Judge 1 (55½-ac), Marshall University sur, 3 mi se Tyler, elev 486 ft, Pecan chalk 3512-3890 ft, Austin chalk 4627-4897 ft, dry and abd in water sand 5172 ft. Bowers et al's Landers (Williams-Holland) 1 (215-ac), S. A. & M. G. Ry. sur, 3 mi ne of Jamestown, dr 2900 ft.

TITUS COUNTY—Steve J. Rotondi et al's O. C. Lillianstern 1 (40-ac), W. H. Crawford sur, 5 mi se Talco, elev 301 ft, dk.

UPSHUR COUNTY—Flanagan & Vardeman's W. D. Barber 1 (78-ac), Del Toris sur, 5 mi nw of Glenwood, lcn.

VAN ZANDT COUNTY—Newt Tidwell & W. J. Rogers et al's L. E. Breucher 1-A (98¾-ac), David Clapp sur, 5 mi se Wills Point, top Austin chalk 3014 ft, dr 3555 ft.

WOOD COUNTY—Atlatl Royalty Corp. (E. DeGolyer's) J. B. Goldsmith 1 (693.3-ac), W. W. Lanier sur, A-358, 3 mi nw of Quitman, elev 453 ft, Pecan chalk 2450-2636 ft, Austin chalk (broken) 3807 ft (hard) 3835 to 3973 ft, top Woodbine 4447 ft, dr red beds 4709 ft.

HARRISON COUNTY—Itex Oil Co.'s T. J. Taylor 1, W. H. Payne sur, dr 3440 ft. Roy C. Swails et al's Bonnie Pitts 1, se c G. W. Martin sur, sd 1810 ft. Hanover, Bergendall et al's Buchanan 1, W. M. McIlvain sur, installing new rig, td 3682 ft. Hammonds & Williams' W. T. Cock 1, J. N. Sorrell sur, arr test td 2500 ft.

PANOLA COUNTY—J. L. Cadrin's Robt. Johnson 1, J. Johnson sur, dk. Flinchbaugh & McAneny's M. G. McCormick 1, Jas. P. McAdams sur, 10-in csg 150 ft. G. F. Hudson's J. F. Nail 1, C. McCrary sur, elev 283 ft, claim so, 4½-in csg 2300 ft, td 2337 ft. Geo. Le Grand's P. J. Laidleigh 1, A. Thompson sur, sd 885 ft. S. B. Wallace 1, A. M. McLaughlin sur, rog.

SAN AUGUSTINE COUNTY—The Hunter Co.'s Long-Bell Lbr. Co. 2, P. Galloway sur, rur.

SHELBY COUNTY—I. M. Bradley et al's J. J. Ashberry 2, J. M. Mitchell sur, 6¾-in csg 2960 ft, sd 3390 ft. C. E. Litchfield et al's W. C. Windham 1, A. H. English sur, dr 3595 ft. J. W. Reynolds et al's Polley Est. 1, E. F. Christenberry sur, mim. Tarbud Oil Co.'s Pickering Lbr. Co. 1, W. D. Woodfin sur, rur. Pickering Lbr. Co. 2, Jas. Forsyth sur, rur.

SOUTH TEXAS

ATASCOSA COUNTY—R. McIntyre's H. A. Billinck 1, J. B. Woodleff sur No. 246, prep to sp.

BANDERA COUNTY — Palm Winn Oil Co.'s R. B. Watson 1, sec 71, setting csg 1700 ft. Plateau Oil Co.'s R. G. Garrison 1, sec 506, GC&SF sur, td 3409 ft, move in new rig to dd.

BASTROP COUNTY—Malone & Owens S. S. Spooner 1, L. Leverenz sur, dr below 220 ft. Marts & Beaven's Leatherwood 1, W. McLanglin sur, sp and sd. Nelson Puett's Carrol 5, A. Mays sur, sd 2385 ft.

BEE COUNTY — G. M. Church's J. C. Woods 1, J. Ryan, ru. John Deering et al's Pullin 1, W. W. Grant sur, dr 275 ft. Dirks Bros.' Johnson 1, J. M. Uranga Grant, dr 2850

ft. L. A. Douglas' Imogene Hall 1, T. J. Butler sur, dr 1800 ft. Falvey et al's S. D. Copeland 1, B. Q. Hadley sur, dr 2815 ft. Humble O&R Co.'s J. C. Woods 1, Wm. Burk sur, r 3963 ft, Francis P. Hynes et al Theo. M. Plummer 1-A, Theo. M. Plummer sub, sec 33, Chessman sur, dr below sur csg. Littlejohn et al's B. Borroum 1, Wm. Gill sur, re-dr below sur csg. J. T. Wrightsman's A. J. Kimball 1, S. Winship sur, sd 3820 ft.

BEXAR COUNTY — American Gas Co.'s Oliver 5, M. F. Rodriguez sur, dr 2902 ft. James B. Cunningham et al's L. F. Ridder 1, Baerrera sur, Ab 50, sd 519 ft. Fay T. Chew et al's Jones 4, sec 9, Jacinto Pena sur, 330 ft sl and 1050 ft 80 ac tr, 1½ mi e Adkins, dr 135 ft. M. A. Frederich's Fee 1, F. Recarde sur, dr 1090 ft. C. J. LeCompte's A. Herbst 1, M. Leal sur, dr below 75 ft; Mayfield Park 1, sd 362 ft. McPhee & Briggs' Florence Lamb 1, M. de Luna sur No. 4, td 2147 ft, sdtr 1700 ft. Mid-Tex Prod. Co.'s Walker 1, S. N. Dobie sur No. 79, ru. J. H. Parker's M. McCloskey 1, F. A. Desaque sur, dr 525 ft. Carrol C. Raborn's A. B. Stephens 1, P. N. Hays sur, sd 410 ft; Claud McCauley 1, Wm. Harris sur No. 52, bailed some o & mud 660 ft, dd; Lee Upson Palfrey 1, Almaniz League, lcn.

BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morrisey 1, T. H. Webb sur No. 91, 2½ mi e Blanco City, dr.

BROOKS COUNTY—United Prod. Co.'s K. J. Hocker 1, Palo Blanco area, sp.

CALDWELL COUNTY—Ballard & Whitting's A. C. Bridges 1, S. Seal sur, dr 850 ft. R. S. Bolling et al's C. F. Robertson 1, John A. Neill sur, dr 650 ft. Exploration Dev. Co.'s W. T. Mooney 1, S. Seal sur, completing 2150 ft. O. W. Killam's W. D. Moore 1, 150 ft nel and sel of 44 ac tr, J. Burleson sur, 1½ mi s Lytton Spgs. field, lcn. Ogden & Reed's H. Brewer 1, Martinez sur, td 1745 ft, pb 1525 ft, testing. R. Y. Walker's Walker Bros. 2, S. Seal sur, sp.

CALHOUN COUNTY — Continental Oil Co.'s Am. National Realty Company (Moody) 2, sec 6, blk C, P. Garcia sur, sett ng 11¾-in csg to 6504 ft, sh and lime. Halliburton Oil Co.'s D. Burton 2, M. Sanchez sur, cored hard sand and sh 6185-6200 ft, coring ahead. Mart Oil Co.'s Brundett 1, sec 8, Little sur, set 172 ft 16-in csg, wocs. Steinberger Pet. Corp.'s W. A. Shofner 2, M. Sanchez sur, sp. Texas Co.'s Hackney 1, B. Rodriguez sur, dr 5060 ft stky shale; W. A. Shofner 1, M. Sanchez, td 6262 ft, test sw, pb 6245 ft, wocs.

DE WITT COUNTY—R. Bourke's Steinman 1, 3368 ft w and 937 ft s of se cor of Longoria sur, but in Uriah Blue sur, 6 mi s Yoakum, dk.

DUVAL COUNTY—Benedum & Trees' G. B. Parr 1, San Andres gr, 4 mi se Sweden, dr 1000 ft. Bridwell Oil Co.'s J. D. Sutherland 1-A (Sun lease), w½ sec 122, sand 2697-2712 ft, test 200 ft oil, set csg, wocs. Dulce Oil Co.'s H. Serna 1, n nw sec 384, making dst 2451 ft. Humble O&R Co.'s T. D. Smith 1, sec 382, td 2124 ft, sandy sh, r for dst. Intrepid Oil Co.'s Parr Ranch 2, sec 115, sd 5305 ft for orders. Kone Prod. Co.'s Peters Ranch 1, sec 176, completing 2571 ft. D. H. O'Byrne's Ball 1, sec 3, Agua Poquita gr, 2 mi sw Sweden, dr 3500 ft. Santa Clara Oil Co.'s Wood-Welder 2, sec 385, dr 2202 ft. T. M. G. Drlg. Co.'s Davidson 1, sec 90, sd 1420 ft.

FRIO COUNTY—Amerada Pet. Corp.'s W. H. Smith 1, J. B. Mason sur, No. 322, dst 5400-43 ft in Austin chalk, show o, g mud and fresh water, now dd; Kothman 1, B. L. Crouch sur No. 90/9, ½ mi s Pearsall field, dr 3930 ft. W. D. Bacon et al's J. F. Burns 1, T. H. Clifton sur, sw Bigfoot, lcn to commence shortly. Midland Oil Co.'s S. A. Joint Stock Land Bank 1, BS&F sur, 2, 1 mi s Pearsall town, sp.

GONZALES COUNTY—Resource Oil Co.'s Otto Lambeck 1, J. M. Salinas sur, 3 mi w Gonzales, ru.

GOLIAD COUNTY — Keystone Royalties Co.'s C. B. Wood 1, John Shearn sur, 3 mi e of Berclair, dr 5820 ft, sandy sh.

GUADALUPE COUNTY—J. E. Clark's W. B. Lay 1, J. K. Davis sur, sp. Gode et al's Hicks 1, E. de los Santos Coy sur, trying to cut off water 300 ft. Grayburg Oil Co.'s McKean 15, Cottle sur, completing 1875 ft. A. D. Locke's Mrs. N. S. Lowman 1, C. Campbell League, sd 1810 ft. W. A. Scrutchin's A. H. Smith 1, J. B. Cowan sur, 2 Staples, sd 75 ft. Suttle et al's Baenzinger 1, A. O. Mansola sur, sd 2155 ft. W. J. Walton's Zoboroski 2, J. D. Clements sur, testing below 2190 ft.

HIDALGO COUNTY — Bluff Pet. Co.'s Knowles 1, sh 14, por 49, 3 mi sw Mission, coring 3570 ft, top sand; sand 3457-69 ft, carried slight show o & g. E. A. Davis et al's Tomas Flores 1, sh 312, por 38, sw Samfordyce field, dr 2800 ft. K. D. Harrison & D. D. Oil Co.'s Mrs. Lula George 2, tr 13, por 41, e Samfordyce field, td 3101 ft, pb to 2700 ft, sand, will perf. Maddox, Turnbull & Irwin's John H. Shary 1, lot 21, Shary sub, por 58-59-60, 4 mi se Mission, prep to sp. Mundy & Sons' F. Guerra 1, tr 12, por 41, 4000 ft n Samfordyce field, lcn. Union Sulphur Co.'s ARGL&I Co. 1, tr 2297, lot 59, N. Capisallo district, Llano Grande gr, 1½ mi ne Mercedes field, td 6431 ft, pb 2400 ft, wocs; ARGL&I Co. 2, lot 2082, blk 86, N. Capisallo dist., Llano Grande gr, offset to discovery, td 8044 ft, dr 5790 ft in sdtr hole; ARGL&I 4, lot 1, blk 99, N. Capisallo dist., Llano Grande gr, 1½ mi sw of discovery, ru.

JIM HOGG COUNTY — Darby Pet. Co.'s Holbein 1, blk 5, Las Animas gr, coring sand 3055 ft. Miller et al's Yeager 1, blk 6, sec 20, fsh 3530 ft. Sun Oil Co.'s L. R. Brooks 1, Domingo Abajo grant, dr 4175 ft.

JIM WELLS COUNTY—A. M. Hagen et al's Robt. Adams 1, State sur No. 10, 2 mi sw Alford, ru and sd. O. W. Killam's W. D. Wade 7, lot 1, blk C, Bode sub, S. A. Agua Dulce sur, 1000 ft se No. 4, dr 2000 ft. Magnolia Pet. Co.'s A. A. Seeligson 6, V. Canale sur No. 218, co to dd fr 6010 ft. Maher & Shira's Schaeffer 1, S. Bigham sur, sd 5505 ft for orders.

KARNES COUNTY—W. C. McBride, Inc.'s N. B. Boultinghouse 1, J. S. Menefee sur, 10½ mi e Green, coring 2665 ft. H. A. Pagenkopf et al's Sahm 1, Elijah H. Garrett sur No. 257, 12 mi sw Kenedy, sp.

KENDALL COUNTY — J. E. Freeman's Gerfers 1, Mark Hodgson sur No. 796, sp. Southwestern Dev. Synd. Ltd's Willie Werner 1, Torrey sur No. 781, Sisterdale area, dr 190 ft.

LEE COUNTY—McNeill Pet. Co.'s W. B. Bately 1, Wm. Nichols sur, 14 mi nw Lexington, ru.

LIVE OAK COUNTY — Benco Oil Co.'s Elizabeth Mahoney 1, Mark Killely sur, 3 mi w Three Rivers, sd 78 ft. Henderson Coquat's L. A. Reagan 1, McGloin sur, sd 1240 ft. Gem Oil Co.'s J. E. Lyne 1, 330 ft nl and el, sec 134, M. M. Lyne, Ab 718, ru. Houston Oil Co.'s Cartwright 32, M. Trudo sur, td 6187 ft, pb 5304 ft, now testing. Ray S. Nixon et al's Chamberlain Mortgage Co. 1, W. Hill sur, blk 8, sec 174, 3 mi s Fashing, ru. E. W. Turner's J. W. Walker 1, blk 9, C. Simmons sub, set 65 ft sur csg, and sd acct weather.

McMULLEN COUNTY—Bussa Oil Co. of Texas F. B. Horton 1, James A. Jean sur No. 29, 3 mi sw Tilden, prep to mim. Darby Pet. Co.'s E. R. Hagist 1-C, sec 108, dr 1800 ft. John O. Bidson's Masur & McDowell 1, sec 19, HT&B Ry. sur, re-dr 505 ft. G. C. West

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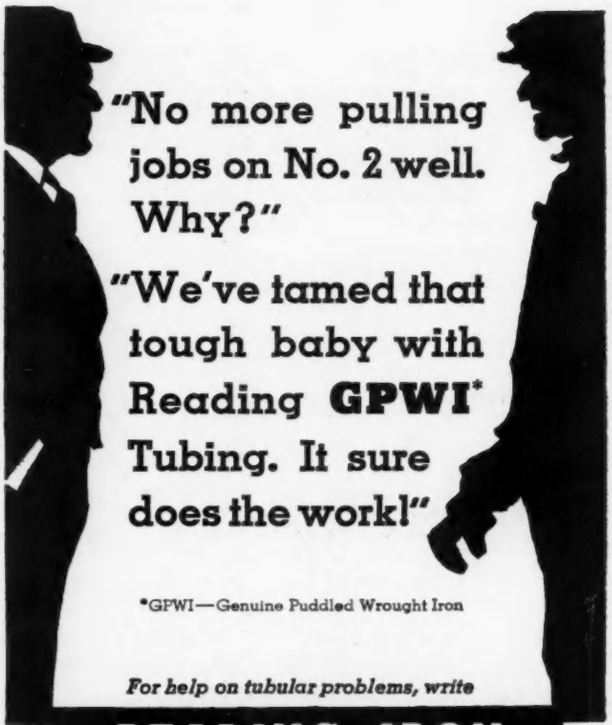

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1, lot 1, blk 4, sec 14, HT&B Ry. sur No. 1092, 5 mi sw Tilden, sd 465 ft. Humble O&R Co.'s J. W. Atkinson 1, sec 13, dr 500 ft. Loma Oil Co.'s L. Jacob 2-W, Benham sur No. 9, show small amount of oil 925 ft, sd; L. Jacob 5-W, Benham sur, ru. C. W. Points et al's Fahler 1, Geo. Pittuck sur, 5 mi w Calliham, sd 812 ft. Texas Inland O&G Co.'s H. L. Lark 1-A, M. O'Boyle sur, ½ mi s Jacob field, dk. Texico Oil & Illinois Pet. Co.'s J. W. Atkinson 2, sec 13, dr 1500 ft.

MEDINA COUNTY—Callahan & Roberts' Taylor 1, A. Brushet sur No. 135, 5 mi sw Hondo, sp and sd. Joe Deupree's Hugo Batot 1, John Ball sur No. 1478, 8 mi sw Hondo, dr 450 ft. Gates & Hill's Odem 1, H. Castro sur No. 174, 5 mi sw Hondo, sp and sd.

NUECES COUNTY—Magnolia Pet. Co.'s Booy Baldwin 1, sec 39, J. S. McGregor sur, dst 3231-38 ft, dst 150 ft sw, 100 bbls 10 min, sd for orders. Southern Minerals Co.'s Rand Morgan 1, Elliott sur, 2¾ mi sw Saxet field, dr 7048 ft.

REAL COUNTY—H. J. Heartwell et al's L. J. Haby 2, AB & M sur No. 175, no report.

SAN PATRICIO COUNTY — Benson & Jones' E. H. Welder 1, sec 38, Welder sur, lcn. Conroe Dr. Co.'s R. H. Welder 1-D, Portillo sur, dr 6325 ft. Continental Oil Co. & Atkins & O'Neill's J. F. Welder 3, Juan Hart gr, n of Angelita field, dst 5395-5410 ft, show mud with some oil, dd. Heep Oil Corp.'s E. H. Welder 2-E, sec 46, Welder sub, set csg 5667 ft, wocs; Welder 3-E, sec 46, Welder sub, dr 2000 ft. Magnolia Pet. Co.'s Corpus Christi Bank & Trust Co. 1, H. H. Hunter sur, 9000 ft sw Plymouth field, dr 3650 ft. Plymouth Oil Co.'s E. H. Welder 4-C, sec 48, Welder sub, testing sand 5597-6618 ft; E. H. Welder 5-C, sec 45, Welder sub, dr 4665 ft; E. H. Welder 6-C, sec 48, Welder sub, dr 800 ft; E. H. Welder 7-C, sec 45, Welder sub, dr 600 ft; E. H. Welder 8-C, sec 49, Welder sub, lcn; E. H. Welder 1-D, Portillo sur, dr 6480 ft. Violet Oil Co.'s E. H. Welder 1, sec 47, Welder sub, sw Plymouth field, sp.

STARR COUNTY—Accumulative Royalties Co.'s H. F. Ferry 1, lot 8, blk 15, B&B sub, por 86, Rio Grande City, dr 1000 ft. C. R. Borah et al's A. Guerra 1, sh 6, San Jose gr, 2 mi n La Reforma, sd 3210 ft. John H. Clopton's Kelsey Bass 1, blk 5, sec 10, por 86, e Rio Grande City field, dr 2315 ft. H. C. Harter's Sanchez 2, lot 3, sh 72, por 72, 9 mi n Roma, gas sand 494-501 ft, oil sand 501-3 ft, set csg 501 ft, wocs. Henshaw Bros.' S. Sanchez & Bro. 1, sec 344, dr below 3000 ft. Hughston Oil Co.'s Wood-Gregg 1-A, por 84, w Rio Grande City, sd 3360 ft for boiler repairs.

VICTORIA COUNTY—Crown Central Pet. Co.'s Schovajsa 1, lot 15, Rupley sur, dr 4250 ft. Eastern Texas Oil Co.'s Henderson & Pickering 1, blk 19, Benavides sur, fsh for ds below 5750 ft; J. E. Schovajsa 1, lot 14, Rupley sur, testing 4789 ft; E. Williams 1, E. Benevides, dr below 5000 ft. Gillespie & Superior Brandt 1, lot 11, Rupley sur, coring below 6010 ft; J. Janis 1, Nancy Dean sur, dk. Magnolia Pet. Co.'s Henderson & Pickering 1, lot 18, E. Benevides sur, dst 5975-6021 ft, test dry, now coring 6025 ft. Martex Oil Co.'s Mitchell 1, E. Benevides sur, ¾ mi dis, lcn. E. L. Smith Oil Co. & Gulf Prod. Co.'s Henderson & Pickering 1, Brunson sur, 2½ mi sw Placedo discovery, sand 4764-4777 ft, tested for oil well, set csg and dr out plugs, mistake in length ds and hole dr to 4805 ft, made sw, pb and wocs. Texas Co.'s A. M. McFaddin 9, J. M. Rine sur, sd 6200 ft.

WEBB COUNTY—Allison et al's M. Jones 1, sec 1640, coring 855 ft. Rose B. Barnhardt's de la Garza 1, sec 262, 2 mi n Carolina-Texas field, testing 2395-2406 ft, Mills Bennett Oil Co.'s J. Lopez 1, sec 73, 10 mi n Bruni, comp as gasser, 25,000,000 cu ft per day 2139-44 started spraying 22 gr oil, sd to bldg storage and install separator. Smith et al's M. Jones 1, sec 1640, dr 600 ft. W. H. Bernor, Tr.'s Jeffries Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, lcn.

WILLACY COUNTY—Kingwood Oil Co.'s Stillman Ranch 1, lot 16, blk 30, sh 44, Stillman Ranch sur, San Juan de Carricitos gr, dr 4220 ft. South Texas Dev. Co.'s E. Armendiez 1-A, sh 4, prep to re-dr 3660 ft.

WILLIAMSON COUNTY—Fusch & Walters' G. Ollman 1, Bevil sur No. 56, dr 875 ft. H. F. Goff et al's A. Klotz 1, W. Cartwright sur, sd 1210 ft. W. L. Stephens et al's J. P. Carlson 1, S. C. Jones sur, 10 mi sw Taylor, re-dr 650 ft.

ZAPATA COUNTY—Cox et al's D. Yzaguire 1, sh 17, por 15, S. Lopeno field, coring 2360 ft. H. C. Dean et al's J. M. G. Martinez 1, blk 34, sh B, W. R. Duke sub, Charco Redondo gr, sp. Gem Oil Co.'s J. G. Ramirez 1, sh 3, por 18, ¼ mi se Lopeno field, coring below 2320 ft. J. J. O'Hern's Alexander 1, 2000 ft wl, 550 ft sel sh 7, por 22, n of Lopeno field, prep to sp. Humble O&R Co.'s E. Dominguez 1, por 31, prep to sp. Martinez & Daniels' A. M. Bruni 1, blk 44, San Ignacio sub, Borrego gr, dr 650 ft. E. L. Smith Oil Co.'s R. Hinnant 1, blk 27, sec 307, dr 1975 ft. Stover et al's F. G. Martinez 1, blk 125, sh 1, El Grullo gr, dr 125 ft.

TEXAS GULF COAST

ANGELINA COUNTY—Lee Tex Oil Co.'s A. H. Geisler 1, 1 mi nw of Lay, B. J. Thompson sur, preparing to drill plugs 2053 ft.

AUSTIN COUNTY—John C. Crossman et al's Corporation of San Felipe 1, 4½ mi e of Sealy, San Felipe De Austin 5 League, dk.Deering & Kayser's T. A. McClenton 1, se of Bellville, Thos. Bell sur, sd 2208 ft. Paul English's F. Luhn 1, 1 mi se of Kenny, D. Chandler sur, ru and sd.

BRAZORIA COUNTY—Amerada's Houston Farms Dev. Co. 2, Rattlesnake Mound prospect, Perry & Austin No. 106 sur, dr shale 4450 ft. Harrison & Abercrombie's Bernard River Land Co. 2, Old Ocean, C. Breen sur, dr shale 6005 ft. Texas Co.'s Freeport Sulphur Co. 1, 2400 ft east of the canal, Aerola sur, fsh 4544 ft. Quintana Pet. Co.'s G. L. Wood 1, e of Nash Dome, T. Alberry sur No. 4, dr shale 1140 ft.

COLORADO COUNTY—Clyde Creighton et al's H. Witte 1, s of Bernardo, H. Witte sur, ru. Coyle Concord's Fee 1, I&GN sur, ru. Trans-State Oil Co.'s Frank Weinhuhn 1, n of Columbus, F. A. Ziesmmerscheidt sur, dr shale 1320 ft.

CHAMBERS COUNTY—R. A. Mason's R. M. White 1, nw of Anahuac, J. McCahey sur, dr shale 4875 ft.

FORT BEND COUNTY—C. B. Bunte's S. J. Winston 1, 4½ mi nw of Rosenburg, S. Isaaca sur, ru.

GALVESTON COUNTY—Coast Pet. Corp.'s Stewart 1, w of Dickinson, W. K. Wilson sur, stuck drill stem at 8016 ft.

HARRIS COUNTY — Hebert, Still and Hooper's A. Backman 1, Ogburn area, J. Ogburn sur, dr shale 5950 ft. Stanolind's Fee Land 1, South Houston, H&TB sur, cutting and pulling screen and tubing 4685 ft. E. E. Young's Burt & Griffith 1, sw of Humble, G. S. Garner sur, abd 2580 ft. Graham & Gardner's A. E. Hegar 1, n of Hockley, J. W. Clifton sur, dr shale 3520 ft.

LIBERTY COUNTY—Jack Frazier's Lynott Buffon 2, 7500 ft ne of No. 1, J. Robeson sur, td 7851 ft, pb 7550 ft. A. L. Maxwell et al's M. P. Hinchliff 1, 2 mi ne of Cleveland, H&TC sur No. 105, stuck drill stem 5485 ft.

JEFFERSON COUNTY—Sun's Hebert & Broussard 1, s of Lovall Lake, B. Blackmon sur, dr shale 2925 ft.

MADISON COUNTY — Madisonville Pet. Corp.'s D. C. Cannon 1, 3 mi nw of Madisonville, T. Phillips sur, ru and sd. Poteete et al's Poteete 1, ne of Madisonville, Lewis Helsey sur, sd 195 ft.

MATAGORDA COUNTY — Continental's Feife 1, Citrus Grove, J. S. Chriswell sur, dr shale 5725 ft. H. M. Smith's Wadsworth 1, S. R. Fisher sur, lot 3, blk 5, sd 8418 ft. Chelmerick & Payne's H. B. Hawkins 1, Sheppards Mott, D. A. McCarthy sur, dr sand 3694 ft.

MONTGOMERY COUNTY—Gholson et al's A. Parker 1, nw of Willis, J. Lindley sur, preparing to swab, td 3769 ft. Paul Sanders et al's Tex. L. L. L. Co. 1, Splendora, Walker County School Land sur, woc 1240 ft. V. E. Bolyard's Atkinson 1, n of Pinehurst, R. George sur, ru.

ORANGE COUNTY—Dick Schwab's Banker and Rutan 1, se of Orange field, Jett sur, sd 6573 ft, preparing to carry on deeper.

SAN JACINTO COUNTY—Turnbull & Irwin's Moore 1, near Cold Springs, J. D. Martinez No. 3 sur, sd 4873 ft. Darby & Jones-McBee Dr. Co.'s J. R. Bennett 1-A, David Beer sur, dr shale 2650 ft.

TRINITY COUNTY—Gulf's Trinity Lbr. Co. 1, s of Apple Springs, A. E. Westall sur, dr shale 1450 ft.

WALLER COUNTY—Diadem Oil Co.'s W. W. Urban 1, ne of Waller, James Cooper sur, abd 4905 ft.

WHARTON COUNTY—Texas Co.'s Pierce Estate A-2, 2100 ft nw of A-1, I&GN sur, sec 39, blk A-405, preparing to drill deeper at 4704 feet.

LOUISIANA GULF COAST

ACADIA PARISH—Continental Oil Co.'s T. Ortigo 1, 6 mi nw of Iota, sec 28-7s-2w, dr shale 6708 ft. Humble's Rice Milling Co. 1, s of Crowley, sec 27-10s-2e, td 9308 ft, pb 5720 ft, made drill stem test.

BEAUREGARD PARISH — C. K. Drlg. Co.'s Long Bell Lbr. Co. 1, w of Ludington, sec 26-2s-8w, abd 5899 ft.

CALCASIEU PARISH — Fred Oil Co.'s Faist 2, 900 ft se of No. 1, sec 26-8s-10w, sd 3525 ft. Wheeler Oil Co.'s School Land 1, s of Iowa, sec 16-9s-7w, no report.

CAMERON PARISH — Magnolia's Broussard 1, sec 13-12s-9w, dr in sdtr hole 6284 ft.

EAST BATON ROUGE PARISH—Superior's Duplantier Community 1, University Block, sec 65-7s-1w, cleaned hole to 7747 ft.

IBERIA PARISH—Texas Co.'s State Lake

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Fausse Point 1, on s flank of dome, sec 35-11s-8e, fsh 5128 ft.

ST. BERNARD PARISH — Emerald Pet. Co.'s Shell Beach Properties 1, s edge of Bayou Louis, sec 31-13s-15e, dr shale 6008 ft.

ST. MARTIN PARISH—Texas Co.'s St. Martin Land Co. 7, Henderson, sec 9-8s-7e, dr shale 2380 ft.

NORTH LOUISIANA

BOSSIER PARISH—Bossier O&G Co. Inc.'s Sherrell 3, se se 13-19n-12w, 10-in csg 125 ft, dr 425 ft. W. A. Kirklin, Tr.'s Garrett & McKellar 1, se nw nw 3-21n-13w, dr 2260 ft. Richplain Oil Co.'s Gaines 1, nw nw 22-22n-13w, dr 2615 ft. The Leonard Co.'s Pearson 1, 22-21n-14w, fsg 3300 ft. L. R. Skidmore's Davis 1, se se 12-18n-13w, dr 1735 ft.

CADDO PARISH—Ed Bailey's Hartzo 1, ne nw 28-22n-15w, sd 1230 ft. Haynes Oil Co.'s Tison 1, 24-23n-16w, mim. R. E. Davidson's B. F. Wilkerson 1, ne ne 9-17n-15w, spd dr 940 ft. F. D. Hyde et al's Thigpen-Herold 1, nw nw se 5-15n-15w, dr 375 ft. A. D. King, Tr.'s Roach 1, 4-14n-16w, used acid with so, waiting on 2½-in tubing to test, td 2712 ft, chalk. Texas Trading Co.'s J. B. Waskom 1, ne ne 30-19n-16w, tested sg 929 ft, sd 1025 ft. United Gas Pub. Serv. Co.'s D. F. Barr 1, 29-23n-16w, dr 4992 ft. Young 1, 21-23n-16w, 7-in csg 5590 ft, co td 5826 ft.

CALDWELL PARISH—Critchett & Wood's La. Cent. Lbr. Co. 1, se nw ne 18-11n-3e, arr set 6⅝-in csg 1700 ft, td 1720 ft. G. C. Davis et al's La. Cent. Lbr. Co. 1, sw sw 14-11n-3e, owdd, td 1850 ft. G. W. Zeigen et al's La. Cent. Lbr. Co. 1, nw sw sw 25-13n-3e, 10-in csg 100 ft, sd 556 ft.

CLAIBORNE PARISH—J. C. King et al's Odis Webb 1, nw ne 21-21n-8w, elev 265.6 ft, top Annona chalk 2335 ft, sd 2392 ft, chalk. E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, elev 357.3 ft, top Cane River 650 ft, wocs 12½-in csg 655 ft, hd black shale.

DE SOTO PARISH—E. B. Bird et al's A. D. Johns, Jr., 1, se nw 20-14n-16w, elev 290 ft, 6-in csg 2583 ft, sd 2645 ft. E. L. Foster et al's Youngblood 1, 9-11n-14w, 6-in csg 2735 ft, blew out est 4 to 6 mil ft gas, si, td 2860 ft. Flesh & Hootkins' Farmer 1, se se 14-12n-13w, rebld dk and rur after abn hole started flowing 36.4 gravity oil by heads, old td 3035 ft. Frailey et al's J. E. Stell 1, 5-12n-16w, ru and sd. C. T. Ruffin's Elmo P. Lee 1, nw sw 33-14n-13w, 6⅝-in csg 2785 ft, top Tokio 2811 ft, swabbed some oil, arr deepen td 2825 ft. Ed Saffold et al's T. D. Thigpen 1, nw sw ne 33-13n-13w, 6⅝-in csg 1620 ft, used acid swabbing small amount oil, td 1732 ft, chalk. The Hunter Co.'s De Soto Corp. 1, nw nw 29-12n-14w, dk.

EAST CARROLL PARISH—Century Oil & Drlg. Corp.'s Olivedell Pltg. Co. 1, 56-21n-12e, sdtr 850 ft, td 2540 ft, black shale.

GRANT PARISH—Alexander et al's Maxwell 1, 9-9n-1e. dk and mir.

JACKSON PARISH—American Liberty Oil Co's Lusk 1, cent ne ne 1-16n-1w, 12½-in csg 275 ft, dr 1780 ft.

MADISON PARISH — Southern Land & Expl. Co's Deltic Inv. Co. 1, nw nw 1-17n-12e, wocs surf csg 270 ft.

MOREHOUSE PARISH—C. I. Beacon et al's Crossett Lbr. Co. 2, se sw 36-23n-6e, spd and sd. J. H. Gibson et al's Thomas 1, ne ne 16-22n-7e, dk and mir.

NATCHITOCHES PARISH—Clyde Creighton et al's Friedman Est. 1, swc 52-7n-6w, dr 3550 ft. Edwards & Turner's Prudential Life Ins. Co. 1, nw nw 26-10n-6w, dk. Mike Kissick's Raines 1, sw sw 28-9n-10w, arr deepen 3565 ft. Missouri Drlg. Co.'s Brown Lbr. Co. 1, 5-10n-10w, sd for fuel 1070 ft. B. E. Taylor's De Blieux 1, nwc 83-10n-7w, ru and sd.

OUACHITA PARISH — American Liberty Oil Co.'s Golson 1, cent nw nw 25-17n-1e, dr 1765 ft.

RED RIVER PARISH—Sterling O&G Co.'s Long-Bell Lbr. Co. 1, se ne se 19-13n-9w, pb to 1150 ft, 6-in csg 1120 ft, arr to test, old td 2930 ft.

SABINE PARISH—M. T. Hines' J. B. Hill 1, sw ne 4-6n-11w, 6-in csg 2275 ft, dr 2705 ft.

TENSAS PARISH—H. B. Schumacher's Curry 1, 39-12n-11e, owtd, dr 3935 ft.

UNION PARISH—Crescent Drlg. Co.'s Woolie 1, ne ne 34-19n-1e. 10-in csg 40 ft, dr 1375 ft. Southern Prod. Co.'s W. E. Clark 1, se nw nw 17-23n-1e, 10-in csg 40 ft, dr 2185 ft.

WEBSTER PARISH—Burnett et al's Fulbright 1, ne ne 1-18n-10w, dk.

WINN PARISH—P. E. Parsons et al's Tremont Lbr. Co. 1, nw sw 10-12n-2w, dk and mir.

ARKANSAS

ARKANSAS COUNTY—Grand Prairie Realty Co.'s Fischer 2, ne nw nw 6-6s-4w, sd for surf csg 120 ft.

ASHLEY COUNTY—Glen E. McFadin et al's Bovine Farms 1, ne ne 1-18-8w, elev 178 ft, sd for fsg tool 2798 ft.

CALHOUN COUNTY—The Hunter Co.'s Stout Lbr. Co. 1, nw ne 33-16-13, rur.

COLUMBIA COUNTY — J. G. Cubage's Rhea 1, sw se se 12-17-22, dk. Southern States Gas Co.'s Pine Woods Lbr. Co. 1, sw ne nw 10-20-22, sd 950 ft.

HEMPSTEAD COUNTY—F. W. Martin et al's Lafferty 2, se nw 17-14-24, dk.

LA FAYETTE COUNTY—W. H. Harvey's R. F. Allen 1, ne se sw 13-19-25, dk. S. H. Riggs et al's Du Bose 1, se sw nw 35-15-24, arr run formation tester, after reported so, td 2817 ft. Transportation Pet. Co.'s Cochran Est. 1, ne se 25-19-25, dk. Red River Lbr. Co. 1, sw sw 26-19-25, elev 250 ft, top Nacatosh 1804 ft, top Ozan 2740 ft, dr 4095 ft.

MILLER COUNTY—C. J. Hodges et al's Commercial Nat. Bank 1, sw ne se 30-17-28, dk. King Oil Corp.'s E. G. Anderson 1, nw sw ne 16-14-27, sd 2570 ft. Lee Timberlake et al's Frost Lbr. Co. 1, sw sw se 27-15-26, sd 3097 ft.

MONROE COUNTY — Beaver Pet. Co.'s Hickman 1, sw se sw 27-4n-2w, spd dr 185 ft.

OUACHITA COUNTY — Snow-Black Pet. Co.'s O. F. Wyman 1, n½ sw 36-11-16, 10-in csg 100 ft, dr 1275 ft.

UNION COUNTY—Gulf Ref. Co.'s Werner Lbr. Co. 49, sw nw sw 5-16-16, 10-in csg 2293 ft, 7-in OD csg 6224 ft, sw at 6431 ft, lime, dr 6438 ft lime. H. L. Hunt, Inc.'s E. F. Gregory 15, se se 10-17-14, elev 180.4 ft, 7-in csg 5834 ft, base red beds 5937 ft, top Permian salt 6816 ft, pb and perf csg at 3478 ft, blowing with air all sw, old td 6911 ft, Permian salt. Mrs. R. K. Jones' J. Davis 1, nw nw 28-16-14, dr 3225 ft. E. O. Olds' Telford 1, nw nw 35-17-15, wosr, td 2211 ft.

MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, sd 870 ft gumbo.

GRENADA COUNTY—W. L. Stewart et al's W. W. Wood 1, se ne 19-22n-5e, rur (formerly carried as Westbrook, Thompson et al.)

MADISON COUNTY—Cleve Love et al's P. F. Simpson 1, nw nw 30-8n-1w, lcn.

MONROE COUNTY—P. J. McAlpine et al's Crook 1, nw ne ne 4-13s-18w, arr set 2 pckers, td 2531 ft.

RANKIN COUNTY—Cleve Love et al's Ascher 1, nw ne ne 18-5n-2e, dr 1310 ft.

WINSTON COUNTY—Jack Vale's Moody 1, sw nw sw 3-13n-14e, elev 540 ft, top Eutaw 1826 ft, top sand 2225 ft (Eutaw), arr core.

ALABAMA

BALDWIN COUNTY—Mrs. Mamie McCurry et al's Southern Kraft 1, nw ne sw 28-2s-4e, cemtd 12½-in csg 186 ft.

COVINGTON COUNTY — Geometer Prod. Co.'s A. B. Culbreth 1, sw sw ne 8-2n-14e, dr below 6129 ft (no recent report.)

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 1, sw ne sw 9-3n-29e, co to deepen, td 2772 ft, rock.

LAMAR COUNTY—De Soto O&G Co.'s Gardner 1, nw nw 22-15s-16w, dr 4405 ft gray lme.

FLORIDA

HILLSBOROUGH COUNTY — Southern Pet. Co.'s Mizell & Williams 1, 4-32s-25e, co td 2100 ft.

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1, se se 17-24s-25e, 16-in csg 138 ft, 12-in csg 490 ft, coring 1345 ft.

MICHIGAN

MIDLAND COUNTY—Atha Oil Co.'s Moran 2, 13n-1e-28, dr 3300 ft. Brehm and Hollman's Gould 1, 15n-2w-19, dr 2000 ft.

ISABELLA COUNTY — McClanahan Oil Co.'s McRae 1, 15n-3w-13, dr 2600 ft; Currie-McKenzie 1, 16n-4w-34, sd 1392 ft. United Driller's Vandercook 1, 15n-3w-24, dr 3400 ft. Atha Oil Co.'s Fordyce 1, 16n-5w-34, dr 1130 ft.

OGEMAW COUNTY—Black Gold Pet. Co.'s Rockwell 1, 24n-4w-19, lcn.

GLADWIN COUNTY — Beaverton O&G Co.'s Ross 1, 17n-1w-7, sd 3790 ft. Sun Oil Co.'s Hines 1, 17n-1w-31, testing 3998 ft; Peterson 1, 17n-1w-19, dr 400 ft. Strange O&G Co.'s Spicer 1, 17n-2w-11, dr 3600 ft.

CLARE COUNTY — Farwell O&G Co.'s Siegel 1, 17n-5w-26, dr 1700 ft. T. K. Buzard's Newell 1, 17n-3w-19, lcn.

MECOSTA COUNTY — Jetter Oil Co.'s Parsley 1, 14n-10w-19, sd 3400 ft. Gordon Oil Co.'s Taylor 1, 13n-8w-25, dr 450 ft. Lawson & Flynn's Swanson 1, 13n-10w-11, dr 400 ft.

OSCEOLA COUNTY — Smith Pet. Co.'s Moser 1, 17n-10w-20, dr 3150 ft. Gordon Oil Co.'s Giese 1, 18n-10w-34, rig.

NEWAYGO COUNTY — C. W. Teater's Sawyer 1, 12n-12w-5, dr 750 ft. West Ashlund's McKinley 1, 11n-13w-8, dr 1000 ft.

MONTCALM COUNTY — L. E. Duvall's Eiknorch 1, 11n-10w-13, co 1340 ft. Rex O&G Co.'s Olsen 1, 9n-7w-14, dr 900 ft. Gordon Oil Co.'s Paulson 1, 12n-9w-24, dr 400 ft.

GRATIOT COUNTY—Kircher & Moffett's Shaver 1, 10n-4w-4, dr 3100 ft. Rex O&G Co.'s Biddle 1, 10n-4w-20, Dundee 3172 ft, so & g 3184, water 3209, dr 3226 ft. Newark O&G Co.'s Beck 1, 10n-3w-29, Dundee 3165 ft, water 3185 ft, sd, may deepen to Monroe. Bila Oil Co.'s Ryan 1, 10n-1w-32, sd 360 ft. Mid State Dev.'s Anderson 1, 11n-3w-20, dr 200 ft. Michigan G&O Co.'s Dean 1, 11n-3w-31, rig.

CLINTON COUNTY—D. A. Burris' Becker 1, 8n-3w-nw se-35, mim.

ROSCOMMON COUNTY—Black Diamond Oil Co.'s Vaughan 1, 24n-2w-28, sd 3990 ft. Durham & Jones' Eggleston 1, 21n-2e-9, sp.

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This Week with the Industry's EQUIPMENT SUPPLIERS

Kennedy Valve Appoints Gulf Coast Representative

The Kennedy Valve Manufacturing Company has announced the appointment of Thomas C. Swope as its Texas and Louisiana representatives, with headquarters at 863 Fifth Street, Beaumont, Texas. He will handle the sale of Kennedy bronze and iron gate, globe, angle and check valves, cast iron and bronze screwed pipe fittings for oil wells, refineries and pipe lines, and heavy water gates for other purposes.

Martin-Decker Appoints Factory Sales Representative

To assist customers in solving their drilling control problems and lend the benefit of practical experience to technical problems, Martin-Decker Corporation has appointed L. A. "Pete" Crawford as Mid-Continent and Gulf Coast factory representative. Me is well qualified for his new duties as he has spent six years in field and factory work for Martin-Decker Corporation at Long Beach. He will assist E. L. Decker in covering the Mid-Continent and Gulf Coast fields.

Reed Roller Bit Company is Mid-Continent distributor of Martin-Decker equipment, and Crawford will make his headquarters at this company's Houston office. However, users of Martin-Decker equipment may avail themselves of his services by calling any of the Reed Roller Bit Company branches.

L. A. "PETE" CRAWFORD

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Lane and Wells Given Masters Degree at Iowa

Walter G. Wells, president, and W. G. Lane, vice president and treasurer of Lane-Wells Company, were awarded their masters degree in electrical engineering at the University of Iowa, June 7, following the joint presentation of a thesis on the gun perforator manufactured by the company. The degrees came on the twenty-fifth anniversary of the graduation of both Lane and Wells from the university, and attracted wide attention in school circles at Ames, Iowa.

The thesis was based on the development and use of the gun perforator that penetrates as much as three casing strings. Both Lane and Wells live in Los Angeles.

International Nickel Adds Metallurgist to Its Staff

International Nickel Company, through A. J. Wadhams, manager of development and research, has announced the addition of O. W. McMullan to the research staff. He will be located in the research laboratory maintained by the company at Bayonne, N. J.

Mr. McMullan formerly was chief metallurgist at the Timken-Detroit Axle Company, at Detroit, and prior to that time was with the Studebaker Corporation. He is a graduate of the University of Michigan, where he also took his degree as master of science. He is the author of numerous papers, all of which have been presented before the American Society for Metals.

Lunkenheimer Announces Changes in Personnel

The Lunkenheimer Company has announced the appointment of D. R. Davis as representative in parts of Texas and Oklahoma, with headquarters at Wichita Falls.

E. R. Tieberman, who formerly traveled this territory, will transfer his activities to Tulsa, Oklahoma, from which point he will cover Oklahoma and parts of Kansas.

Joseph Waldeck, for many years Lunkenheimer representative in Mid-Continent and Texas field, will act in a supervisory capacity over both territories.

Black, Sivalls & Bryson Enter Michigan Field

Black, Sivalls & Bryson have established a branch at Alma, Michigan, to better serve the operators in the Michigan field. The company has put in a complete stock of materials, and the Alma store is in charge of W. H. Price, formerly of Oklahoma City and Vern Palmer, formerly of McPherson, Kansas.

Red Gore Representing Miller Fuel Engineering

Miller Fuel Engineering Company, Houston, has added L. O. "Red" Gore to its field staff, to work in the Gulf Coast territory. He formerly was connected for a year with Diamond Metal Company, and for one year previous to that time served the J. S. Abercrombie Company.

L. O. "RED" GORE

NEW PRODUCTS FOR THE FIELD
Machinery • Tools • Catalogs • Books

BRAKE LINING

E. M. Smith Company

E. M. Smith Company, Los Angeles, has developed a new type of brake lining for rotary draw works that has been named the "Grizzly Full Moulded Brake Block." The manufacturer claims that smoke, odors and dust may be eliminated by using this type of brake block. The improved lining is made of more than 75 percent selected asbestos, impregnated with an efficient lubricant that lubricates the rims and insures a polished surface to eliminate the possibility of scoring. No wire is embodied in the wearing surface. The blocks are full-moulded under tons of

hydraulic pressure to correct size and form to fit the rim.

The dense material used is practically heat, water and oil proof, withstanding 2000 degrees of direct heat without heat-checking, the manufacturer claims. It is further claimed that the blocks retain their density and coefficient of friction until completely worn out.

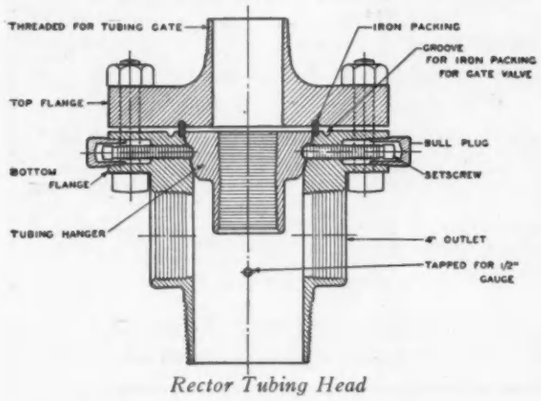
HIGH PRESSURE TUBING HEAD

Rector Well Equipment Company, Inc.

Rector Well Equipment Company, Inc., Fort Worth, has placed on the market a new forged steel high pressure tubing head, 6000-pound test, which brings to the field added safety and convenience in handling tubing strings.

The bottom flange of this head is applied to seven-inch casing when the latter is set. Standard seven-inch gate valve or blowout preventer with full opening is set on top of this flange, the iron packing ring of the gate valve serving to pack off while drilling in and running tubing string. The mandrel type hanger is placed on the top end of the tubing, after it is run, and lowered through the gate valve and preventer, using landing nipple to a metal to metal or ground joint seat. Four set screws hold it in place, and the ground joint seat eliminates the flow between casing and tubing. Since tubing is blanked while being run, the gate valve and preventer equipment can be removed and top flange applied.

This same design will also be available in cast steel construction 3000-pound test.

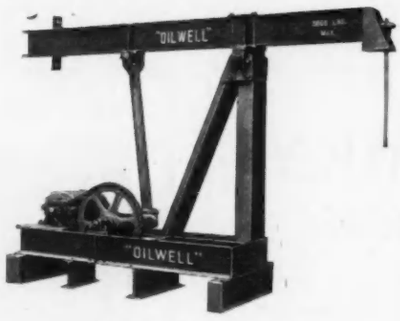


Rector Tubing Head

PUMPING UNIT

Oil Well Supply Company

Oil Well Supply Company, Pittsburgh, has announced the "Oilwell" No. 5 pumping units, types that are intended for individual well pumping in shallow fields where maximum polisher rod loads do not exceed 5000 pounds (A.P.I. rating). They are of arc-welded structural steel construction and are made in two types—(a) with V-belt and chain drive, (b) with gear-motor and chain drive.



Oilwell Pumping Unit

The same structural steel frame, walking beam, hanger, pitman, crank, and bearings are used on both types. The frame is self-supporting and consists of a sturdy structural steel samson post (A-frame) mounted on three channel sections which are placed lengthwise on four CB sections, forming a base that is well suited for derrick floor installations. The upper pitman bearing, the saddle bearings and the polished rod hanger are located in a "three-in-line" arrangement, which assures minimum polished rod deflection and which makes it possisble to run the unit either clockwise or counterclockwise. The upper pitman bearing and the two saddle bearings are babbitt-lined, and the wrist pine bearing and all shaft bearings are self-aligning roller bearings enclosed in weather-proof housing. All the above mentioned bearings are grease lubricated. The polished rod hanger is of wedge shaped construction with a hard surfaced edge which rests on two hardened steel blocks. The standard crank has wrist pin holes for 12-inch and 18-inch strokes, and a special crank can be furnished for 18-inch and 24-inch strokes. The walking beam is drilled at the pitman end for convenience in applying plate type beam counterweights.

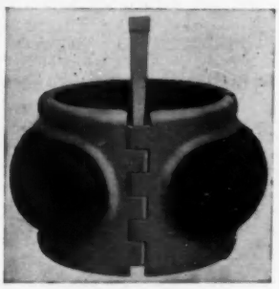
The unit which is equipped with V-belt and chain drive is driven by a small motor or engine, which is mounted on sliding rails on the bed plate of the structural steel frame. A V-belt drive is used from the prime mover to the intermediate shaft, and a single roller chain is used from the intermediate shaft to the crank shaft. The position of the intermediate shaft can be adjusted by means of set screws in order to keep the chain tight. This eliminates the danger of chain breakage resulting from slack in the chain drive. Sheet-metal guards, open at the bottom, are provided for both the V-belts and the chain. This type unit is regularly equipped with an 870 revolutions per minute prime mover, making possible pumping speeds ranging from 16 to 22 strokes per minute. Changes in the speed ratio are made by installing V-belt pulleys of different diameters.

The unit equipped with gear-motor and chain drive is driven by a small gear motor, which is mounted on an adjustable bed plate so that slack in the chain drive from the gear motor to the crank shaft can be taken up.

DRILL PIPE PROTECTOR

E. M. Smith Company

E. M. Smith Company, Los Angeles, has announced the "Grizzly" drill pipe protector, a new type rubber and metal protector that requires no special tools to install. Once installed the manufacturer claims the protector will hold with an even grip to the bottom of the deepest holes.



Smith Protector

The protector is locked on by tightly tapping a tapered locking key into a special dovetailed locking arrangement that prevents slippage, piling up, overlapping, and snapping off. The protector is removed simply by tapping

the locking key out of its position with a light hammer.

The extra large, wide, solid rubber bumpers and body are made flat in one piece, eliminating any expansion strain and providing a solid rubber cushion against the pipe to absorb shocks.

The new protectors will be distributed by the T. T. Word Supply Company, Houston, in all of its supply stores.

ROUND KELLY

W-K-M Company

W-K-M Company, Houston, is introducing to the field a new piece of equipment which permits drilling-in the well with the use of a joint of drill pipe or tubing as the Kelly, eliminating necessity of the square Kelly altogether for this job. W-K-M Company's distribution of this revolutionary product follows acquisition of exclusive manufacturing and sales rights on the Hauser round Kelly drive, for which patents have been applied.

The smooth drill pipe or tubing joint is contacted and held by flexible, self-adjusting roller racks, which allow for misalignment. The racks provide a positive drive for rotation, yet are entirely "free-wheeling" in upward or downward direction.

An outstanding feature of this product is that it permits the closing of blowout preventor rams without requiring the raising of the entire drilling string sufficient to clear rams with the Kelly joint. Each full length of pipe may be run without a shutdown. The round Kelly drive also permits drilling in under pressure with oil, doing away with the necessity of washing the well.

Hauser Kelly Drive

The W-K-M Hauser round Kelly drive is available for two-inch, 2½-inch, three-inch and four-inch tubing or drill pipe.

GAS BURNER

Natural Gas Equipment, Inc.

Natural Gas Equipment, Inc., Los Angeles, has announced what is claimed to be a new application of radiant heat principle, the new N.G.E.-Nelson Series 1000 gas burner for oil field boilers. It is claimed by the manufacturers that the new burner may be installed in oil field boilers in as little as 45 minutes.

The burner represents a sound and proved design, being a modification of the Venturi tube, and operates upon the principle of entraining a major part of the air required for combustion by the pressure energy of the gas issuing from an orifice into the Venturi throat of the burner. This feature permits operation with less stack-draft than with any other type of burner, it is claimed. By use of a refractory bed supported by the burner, the gas is burned in a restricted and localized zone, so that a condition of incandescence is maintained. This method of heat application causes tremendous acceleration in the rate of combustion and produces a source of heat which is practically without flame and is productive of exceptionally high efficiencies. Boilers heat up quickly when firing is started and cool off very slowly when firing ceases.

Utilizing the principle of radiant heat to produce and maintain successfully high combustion efficiency, the new N. G. E.-Nelson Burner incorporates many considerations for safety, capacity, boiler maintenance, economy of operation and long life in service.

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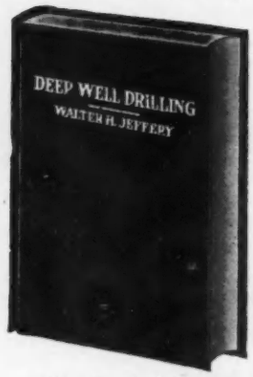

DEEP WELL DRILLING

by

WALTER H. JEFFERY

Re-written and revised to date, and enlarged by the addition of the following New Chapters:

Geophysical Prospecting and Air Mapping.

Straight Hole Drilling and the Treatment of Crooked Holes.

Water Supply.

The Gas-Air Lift Method of Producing Oil.

A. P. I. Codes.

Preparatory to writing the new book, the author spent weeks in a first hand study of modern methods of drilling by the rotary system, and of completing wells, controlling high pressures and operating wells in the deep fields of California and Oklahoma.

The third edition contains 816 pages, 150 pages more than the second edition, and 452 illustrations, but the price is the same, $6.00.

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Squeaks from the Bull Wheel

Ambiguous

Millicent was about to be taken for a trip in one of the gondolas on the artificial lake. Suddenly she said, "I don't want to go."

"Why not, dear," asked her mother. "You're not frightened, are you?"

"Yes, I am. Look what it says up there!"

Over the paybox was a notice, and her mother read: "Trip round the lake. Adults 10 cents each; children thrown in."

Geology Lesson

"Name the constituents of quartz."

"Pints."

No Ideas

"Great Scott, I forgot who wrote 'Ivanhoe!'"

"I'll tell you that if you'll tell me who the dickens wrote 'A Tale of Two Cities'."

Not Over It

"I don't like you inviting that chap to dinner. He used to kiss you before we were married."

"Well, so did you."

"Yes, but I've got over it, and the chances are he hasn't."

Old Panhandler

"I hear your father was under the weather, is he all right now?"

"Yes, the old man got caught in a sprinkle and it was such a shock to him that he fainted. We managed to find some dust, however, and when we threw it in his face, he came to."

Re: Verse

Of all the fishes in the seas,
My favorite is the bass.
He climbs up into sea-weed trees,
And slides down on his hands and knees.

His Bad Luck

"Mandy," said the dusky woman's mistress, "I've heard about your hard luck. I'm terribly sorry."

"Deed, ma'am, Ah ain't had no hahd luck."

"But, your husband: wasn't he killed in an accident yesterday?"

"Yes, ma'am; but dats his hahd luck, not mine."

Un-Canny

Judge (during breach of promise case): "Had you any letters from Mr. McPergus?"

Girl: "Yes, but he got me to tear them up for confetti."

No Feeling

Male Nudist: "Will you marry me?"

Female Nudist: "Why, I barely know you."

Same Thing

"Only last month in India," said the club bore, "I found myself face to face with a man-eating tiger!"

"And only last week, in a restaurant," said the quiet little man, "I found myself face to face with a man eating chicken!"

Too Hasty

A woman entered the palatial office of the busy film director.

"P-please, sir——" she began.

"Cut out all that," snapped the director testily. "What's your specialty? Let's hear you sing."

The woman nervously cleared her throat and struggled through a verse of Annie Laurie.

"Stop! Stop!" cried the director. "That's awful! You can't sing!"

"I never said I could," replied the woman. "I just came here to clean out the office."

No So Daft

"Let's tak a walk doon the toon and see the shops, lassie."

"But they're a' shut."

"D'ye think I didna ken that? I'm no daft a'th'gither."

Watt?

"You'll only jump out of the frying pan into the fire."

"We don't use such things as frying pans and fires. I suppose you mean out of the electric grill into a short circuit."

Skeptical

Teacher: "Now, if I lay five eggs here and three eggs there, how many will I have all together?"

Johnny: "I don't think you can do it."

Suspended Sale

"If you put one of our roofs on your silo, I guarantee that it will stay there for 50 years."

"And after the silo rots away how will I get the roof out of the air?"

Practical

"Well, Dad, I bought some books on farming for you to dig into."

"Yeah, and I've bought another 80 acres for you to dig into."

Slight Error

General: "Where is that horse I told you to have shod?"

Private: "Omigosh, did you say shod?"

No Bargain

"You boys of today want to make entirely too much money. Do you know what I was getting when I married your aunt?"

"No, and I'll bet you didn't either."

Strict

"Are they very strict at your college?"

"Are they? Why, when a man dies suddenly in a lecture they prop him up until the end of the hour."

Nose Holder

"So you are on a submarine. What do you do?"

"I run forward and hold her nose when we want to take a dive."

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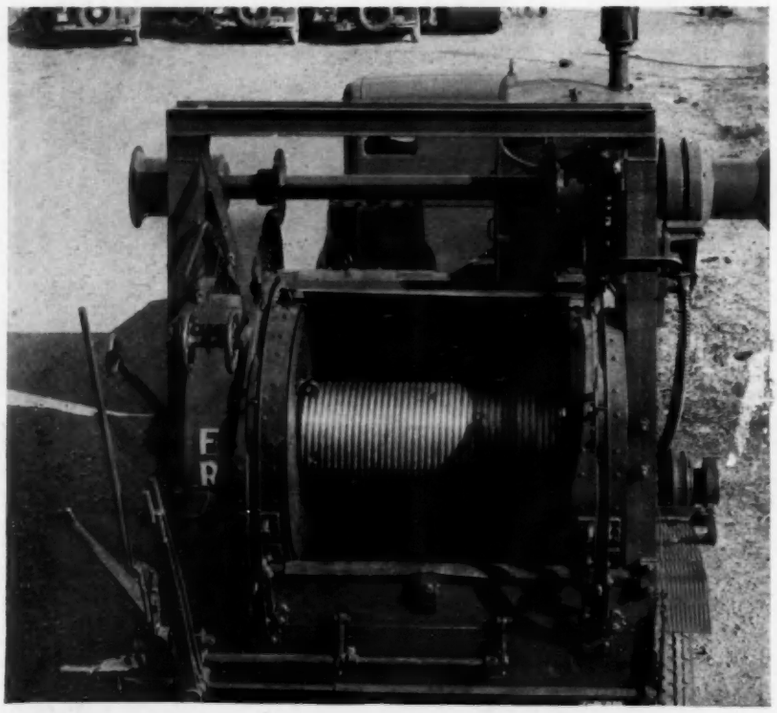

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